WM-D6C/TC-D6C

SERVICE MANUAL

- Refer to MDR-40L Service Manual issued previously for information of headphones supplied with WM-D6C.
- Refer to ECM-939LT Service Manual issued previously for information of headphones supplied with TC-D6C.

WM-D6C:

US Model
Canadian Model
AEP Model
UK Model
E Model

TC-D6C:

US Model

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

Recording System: 4-track, 2-channel stereo

Wow and Flutter: ±0.14% (DIN)
0.04% WRMS (NAB)

Tape Speed Deviation: ±0.3% (speed tuning OFF)

Speed Tuner Variations: Approx. ±4%

Frequency Response: DOLBY NR OFF
- With TYPE IV cassette (Sony METALLIC)
40 – 15,000 Hz ±3 dB
- With TYPE II cassette (Sony UCX)
40 – 15,000 Hz ±3 dB
- With TYPE I cassette (Sony BHF or HFX)
40 – 15,000 Hz ±3 dB

S/N (NAB, at peak level):
DOLBY NR C
TYPE IV cassette (Sony METALLIC) 71 dB
TYPE II cassette (Sony UCX) 71 dB
TYPE I cassette (Sony BHF or HFX) 67 dB
DOLBY NR B
TYPE IV cassette (Sony METALLIC) 65 dB
TYPE II cassette (Sony UCX) 65 dB
TYPE I cassette (Sony BHF or HFX) 61 dB
DOLBY NR OFF
TYPE IV cassette (Sony METALLIC) 58 dB
TYPE II cassette (Sony UCX) 58 dB
TYPE I cassette (Sony BHF or HFX) 54 dB

Total Harmonic Distorsion: 0.9% with Sony METALLIC

Inputs: MIC (PLUG IN POWER)
(stereo minijack) x 1
0.25 mV (–70 dB) with low impedance microphone
LINE IN (stereo minijack) x 1
77.5 mV (–20 dB) (47 kilohms)

Tape Transport Mechanism Type	MT-D6C-20

Outputs: LINE OUT (stereo minijack) x 1
output level 0.25 V (–10 dB) (less than 4.7 kilohms)
Headphones (stereo minijack) x 1
load impedance 8 – 300 ohms

Power Output: Headphones
30 mW + 30 mW (at 10% harmonic distortion)
load impedance 32 ohms

Battery Life: See page 2.

Power Requirements: 6 V dc, four batteries, IEC designation R6 (size AA)
BP-23 battery pack (optional)
External power input jack
(required power 6 V dc) accepts Sony ac power adaptor (optional) listed on page 2 for use on appropriate ac power, or Sony DCC-127A car battery cord (optional) for use on 12 V car battery

Dimensions: 181 x 40 x 95 mm (w/h/d)
(7 1/4 x 1 5/8 x 3 3/4 inches)
including projecting parts

Weight: Approx. 640 g (1 lb 7 oz) including batteries

0 dB = 0.775 V

MICROFILM

STEREO CASSETTE-CORDER

SONY®

TC

Battery life

type of cassette / batteries	continuous recording		continuous playback
	TYPE IV (Sony METALLIC)	TYPE I (Sony BHF, HFX)	TYPE I, IV (Sony BHF, HFX, METALLIC)
Sony Eveready AM3 alkaline batteries	4	5	6
Sony SUM-3(NS) New Super batteries	2	2.5	3

(hours)

OTHER POWER SOURCES

HOUSE CURRENT

Use the appropriate ac power adaptor listed below, available in the countries where the set is used.

First connect the adaptor to DC IN 6 V jack, and then to a wall outlet.

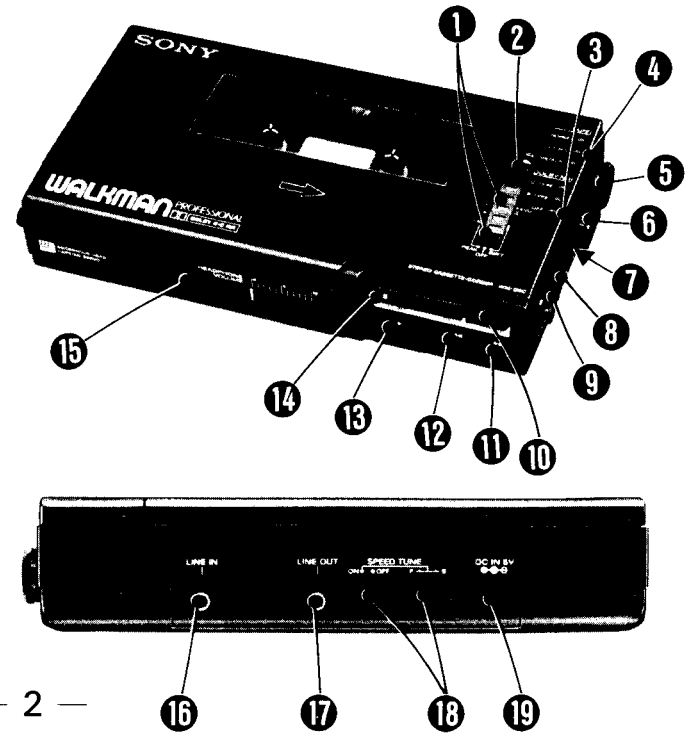
Before connecting, be sure to read the instruction manual for the adaptor.

location	ac power adaptor	input voltage of adaptor
AEP	AC-66	220 V ac, 50 Hz
	AC-456C	110 or 220 V ac adjustable, 50 Hz
UK	AC-15A	240 V ac, 50 Hz
Canadian	AC-9	120 V ac, 60 Hz
E	AC-4A	110, 120, 220 or 240 V ac adjustable, 50/60 Hz
US	AC-9W	120 V ac, 60 Hz

FEATURES

- **Quartz lock capstan servo system** assures accurate and stable tape speed.
- In addition to the conventional B-type Dolby* NR system, the WM-D6C or TC-D6C employs the **C-type Dolby NR system** which reduces tape noise twice as effectively as the B-type system.
- **Speed control** adjusts the tape speed accurately (approx. ±4%) in the playback mode.
- **DC-DC converter** boosts the low voltage of DC 6V and maintains sufficient power.
- **Amorphous head** for recording/playback provides a wider dynamic range and a more extended frequency response.
- **Tape selector** for optimum recording with standard tapes as well as high-performance tapes.
- **Microphone attenuator** eliminates the distortion which may be caused by high-level input signal.
- **MIC (PLUG IN POWER) jack** can supply power to an ECM-102 electret condenser stereo microphone (optional).
- **Four different power sources:** batteries, house current, rechargeable battery pack, and 12 V car battery.
- **5-LED peak/battery indicator** shows both the peak level and the battery strength.
- **Stereo minijacks** can be used for connecting to audio components.

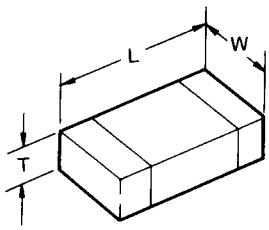
PARTS IDENTIFICATION



❶ Peak/battery indicator and indication selector
❷ Tape counter and reset button
❸ DOLBY NR selector
❹ TAPE selector
❺ REC LEVEL (recording level) control
❻ ● RECORD button
❼ MIC ATT (microphone attenuator) switch
❽ MIC (PLUG IN POWER) jack (stereo minijack)
❾ HEADPHONES jack
❿ ▮▮ (pause) button
⓫ ▶▶ (fast forward) CUE button
⓬ ◀◀ (rewind) REVIEW button
⓭ ▶ PLAY (playback) button
⓮ ⏏■(eject/stop) button
⓯ HEADPHONE VOLUME control
⓰ LINE IN jack
⓱ LINE OUT jack
⓲ SPEED TUNE selector and control
⓳ DC IN 6 V jack

Chip components

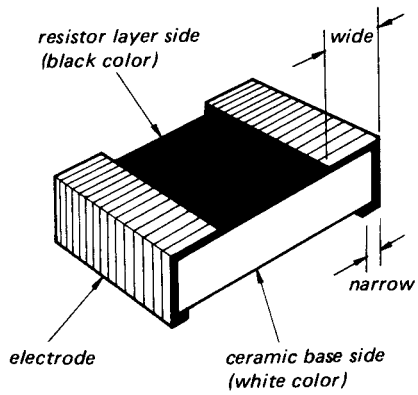
Chip components include resistors, capacitors, transistors, diodes, coil and adjustable resistors.
In this section, the types of resistors, ceramic capacitors, transistors and diodes which are used most frequently will be described.
Dimension of transistors and capacitors



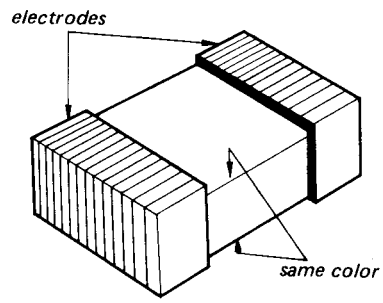
(Unit: mm)

Type	L	W	T
3216	3.2	1.6	0.45 ~ 0.6
2125	2.0	1.25	0.35 ~ 0.5

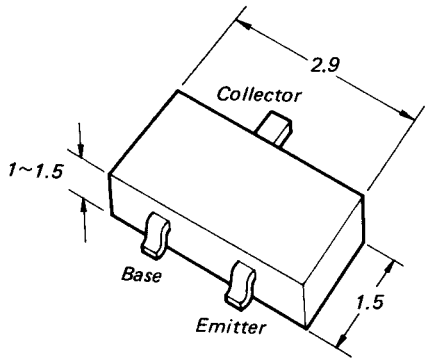
Identification



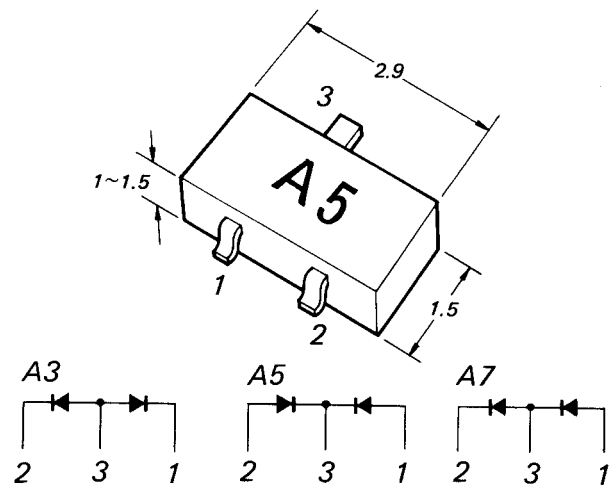
Resistor



Laminated Ceramic Capacitor



Transistor



Diode

Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

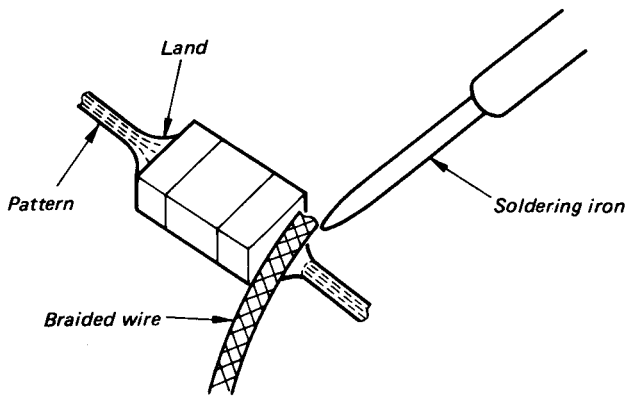
Precautions for replacement

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ **Removing chip components**

(1) Removing solder at electrode

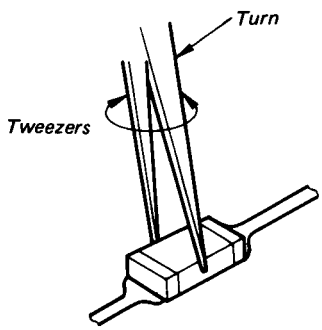
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

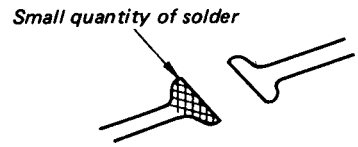
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ **Connecting chip components**

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

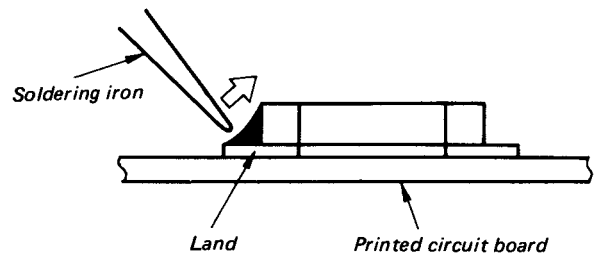
(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



(2) Speedy soldering

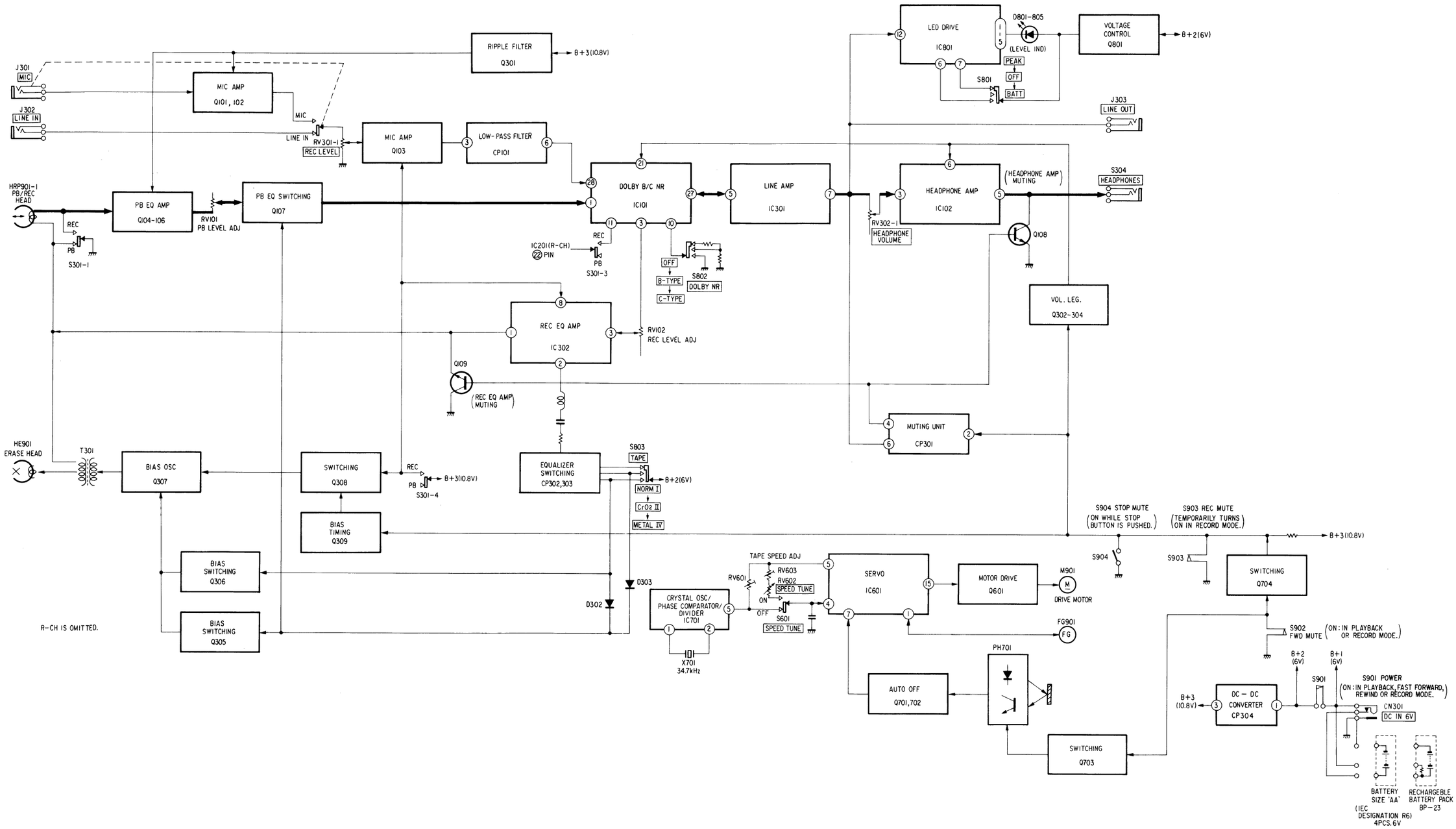
Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



(3) Speedy soldering of electrode on the other side

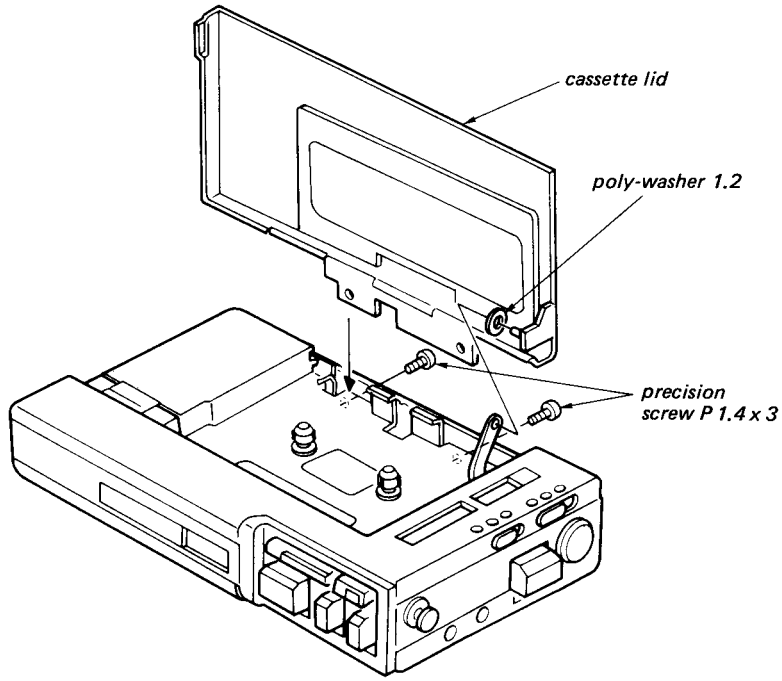
Solder the electrode on the other side in the same way as in (2) above.

SECTION 1
BLOCK DIAGRAM

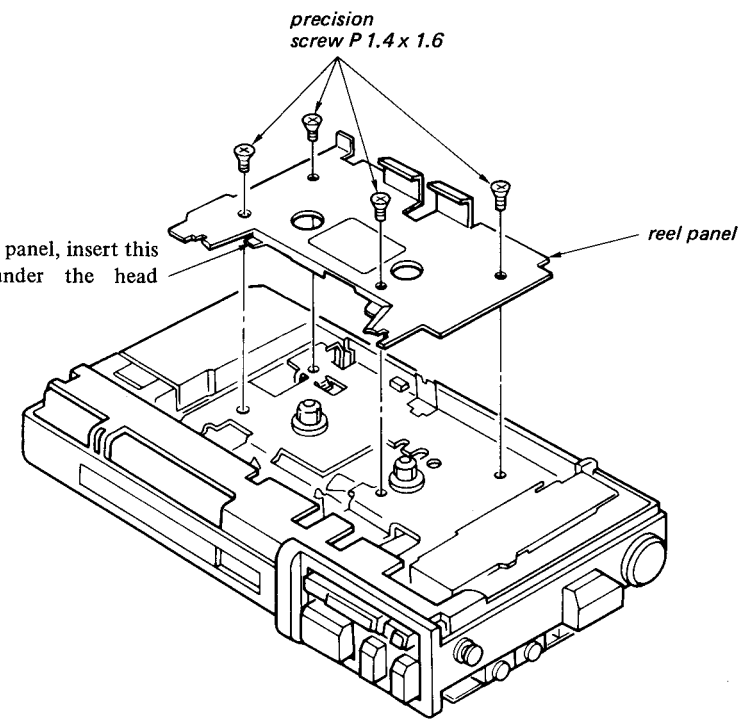


SECTION 2
DISASSEMBLY

CASSETTE LID

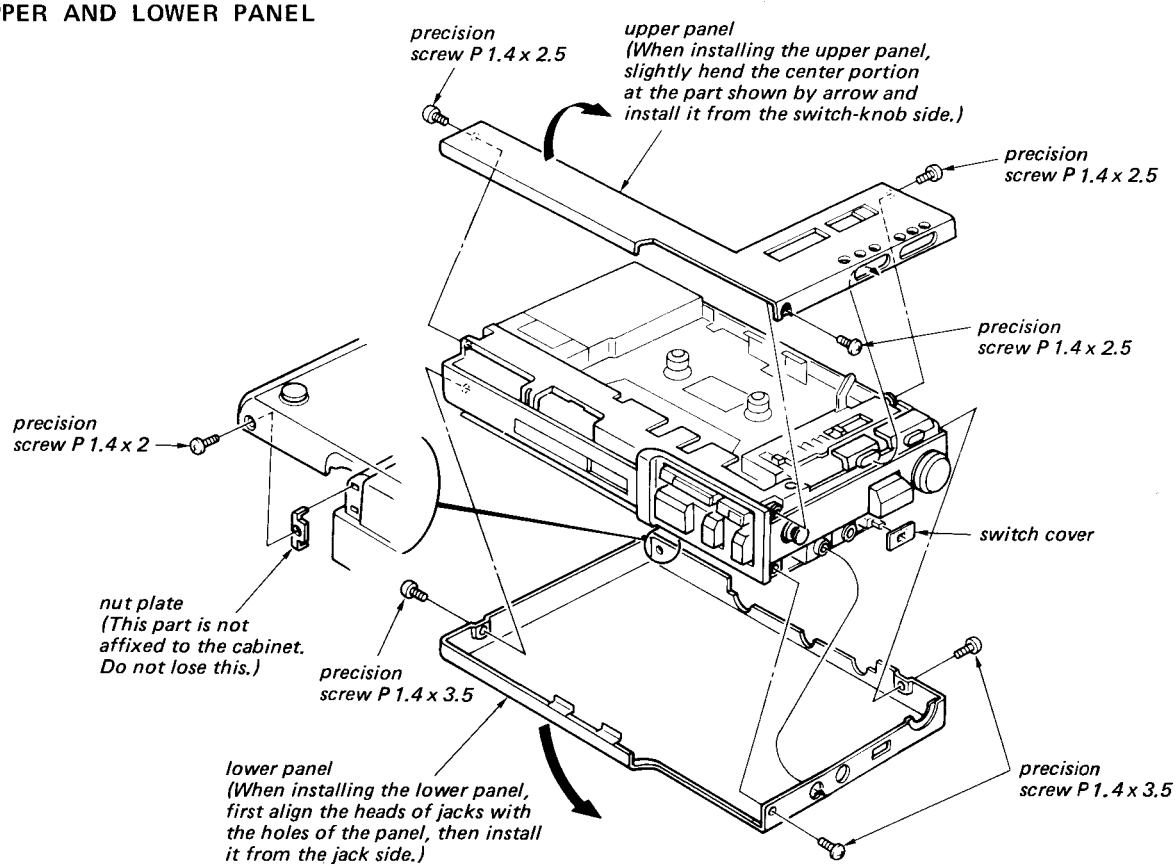


REEL PANEL

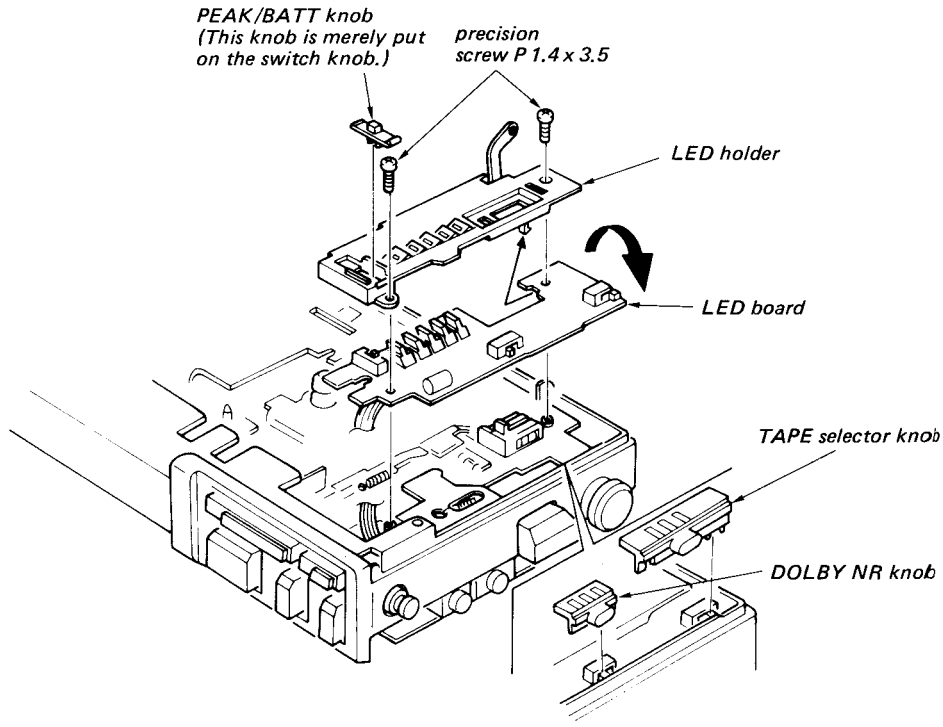


Note: When installing the reel panel, insert this protrusion first to under the head chassis.

UPPER AND LOWER PANEL

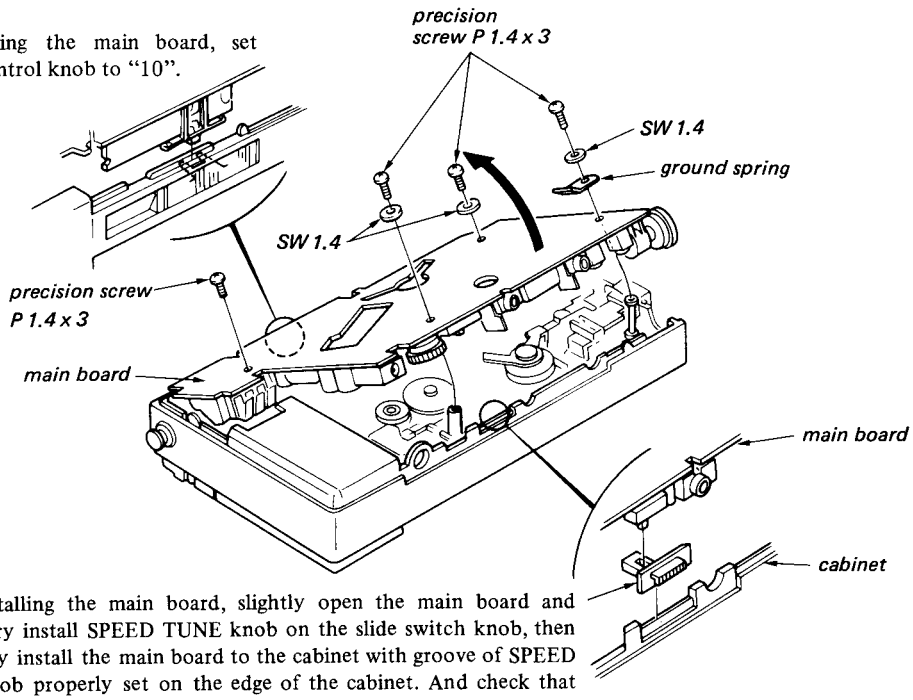

precision screw P 1.4 x 2.5
upper panel (When installing the upper panel, slightly hend the center portion at the part shown by arrow and install it from the switch-knob side.)
precision screw P 1.4 x 2.5
precision screw P 1.4 x 2.5
precision screw P 1.4 x 2
switch cover
nut plate (This part is not affixed to the cabinet. Do not lose this.)
precision screw P 1.4 x 3.5
lower panel (When installing the lower panel, first align the heads of jacks with the holes of the panel, then install it from the jack side.)
precision screw P 1.4 x 3.5

LED HOLDER AND LED BOARD


PEAK/BATT knob (This knob is merely put on the switch knob.)
precision screw P 1.4 x 3.5
LED holder
LED board
TAPE selector knob
DOLBY NR knob

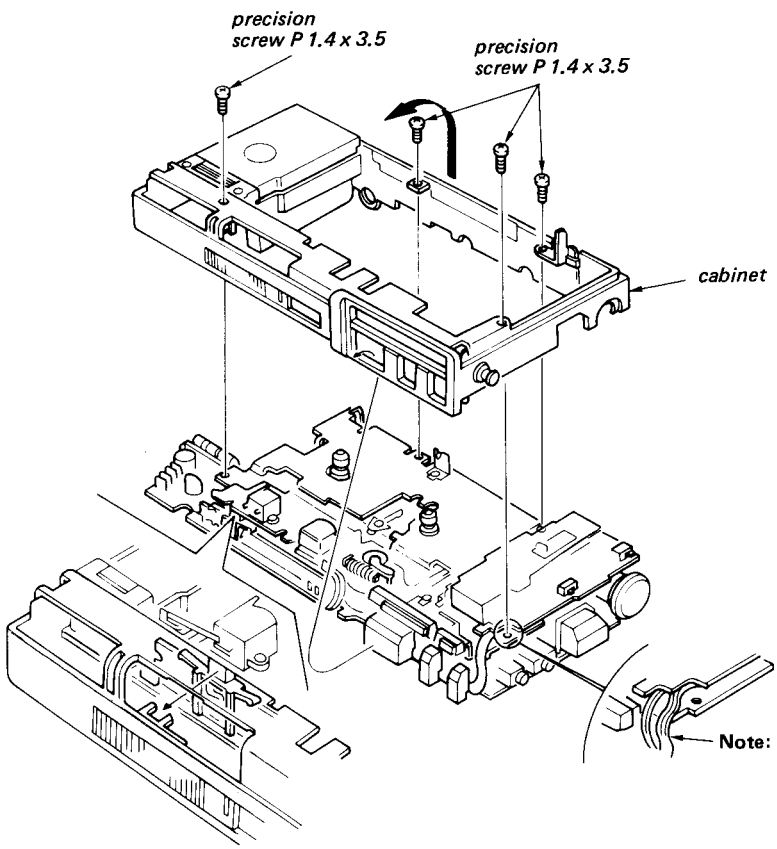
MAIN BOARD

Note: When installing the main board, set VOLUME control knob to "10".



Note: When installing the main board, slightly open the main board and preparatory install SPEED TUNE knob on the slide switch knob, then completely install the main board to the cabinet with groove of SPEED TUNE knob properly set on the edge of the cabinet. And check that the knob smoothly moves and the switch securely operates.

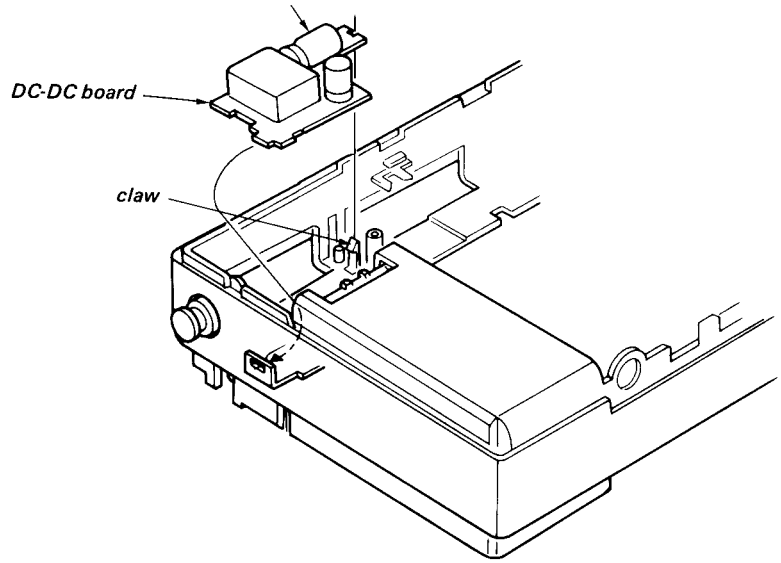
CABINET



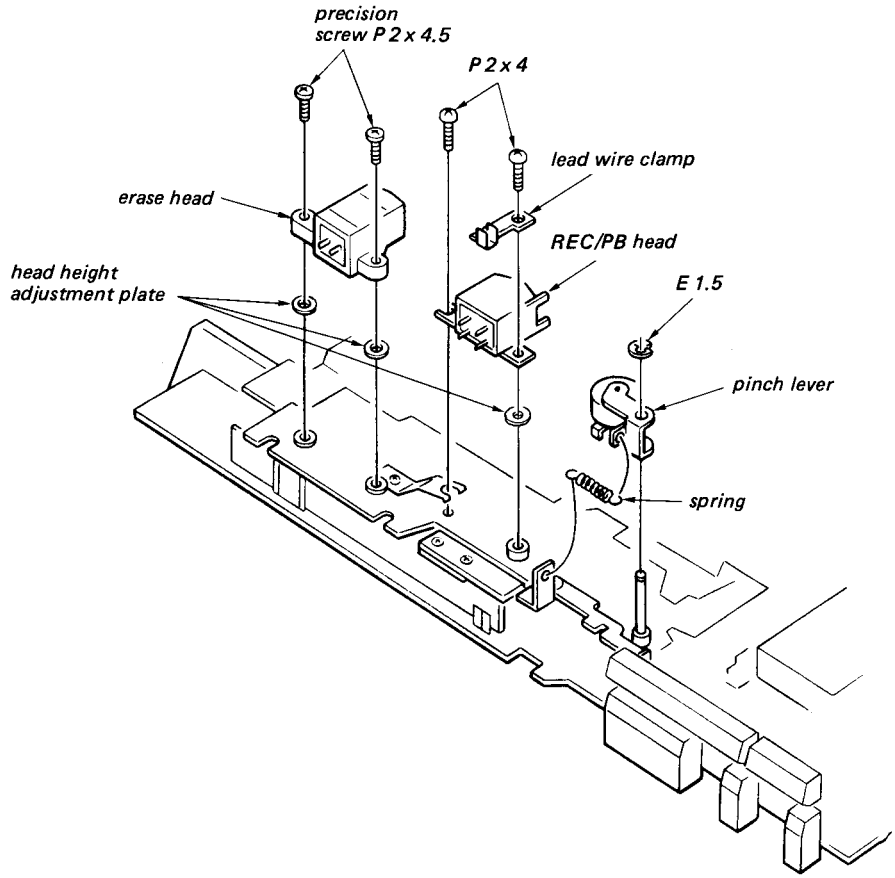
Note: When installing the cabinet, dress lead wires from the LED board to inside so they are not damaged by the boss of the cabinet.

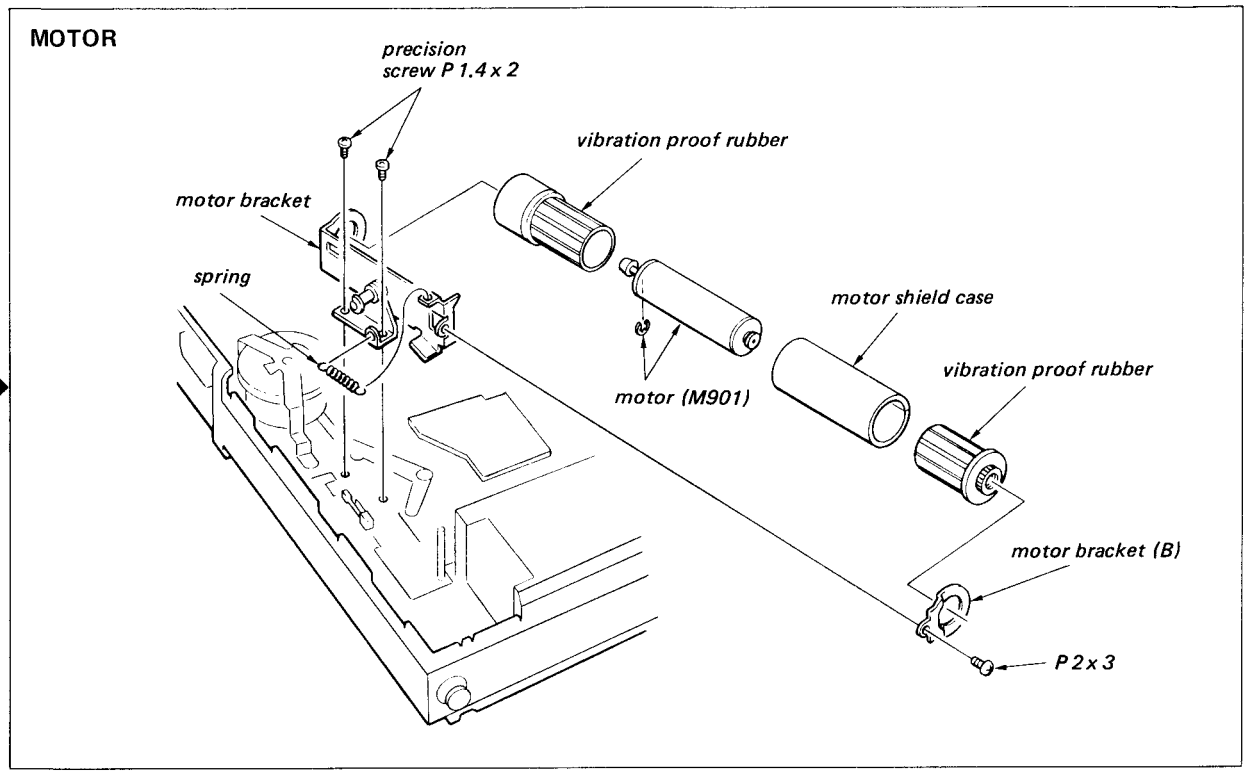
DC-DC BOARD

Note: When C316 is replaced, bend its lead diagonally and lay it on the DC-DC board not to touch components on the main board.



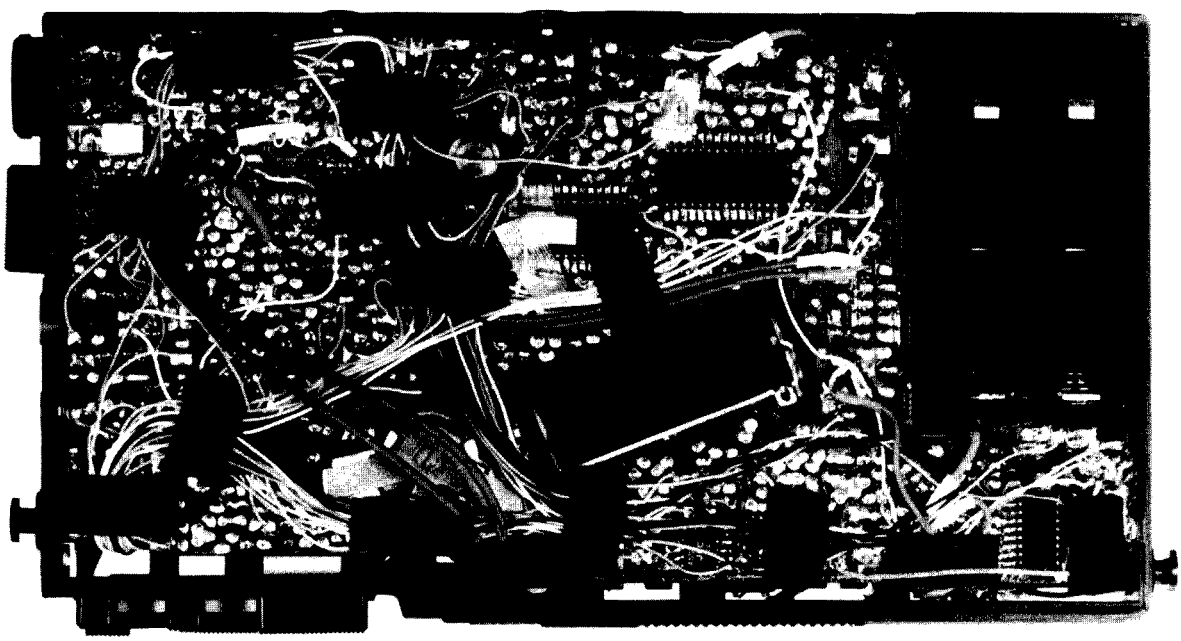
REC/PB, ERASE HEAD AND PINCH LEVER





GENERAL NOTES ON SERVICING

Secure the lead wires and shielded wires to the main board with sections of adhesive tapes as shown below, otherwise proper operation of the unit may be degraded.



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS AND MEASUREMENTS

PRECAUTION

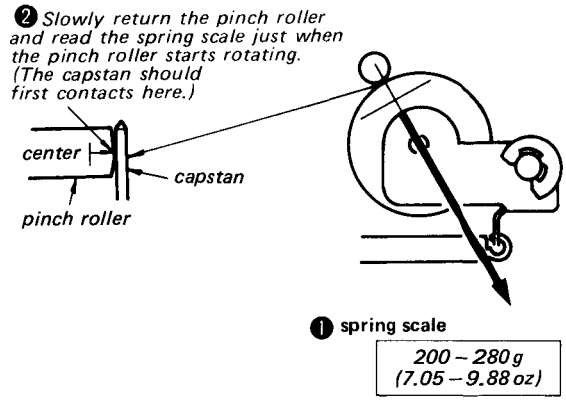
1. Clean the following parts with a denatured-alcohol-moistened swab:

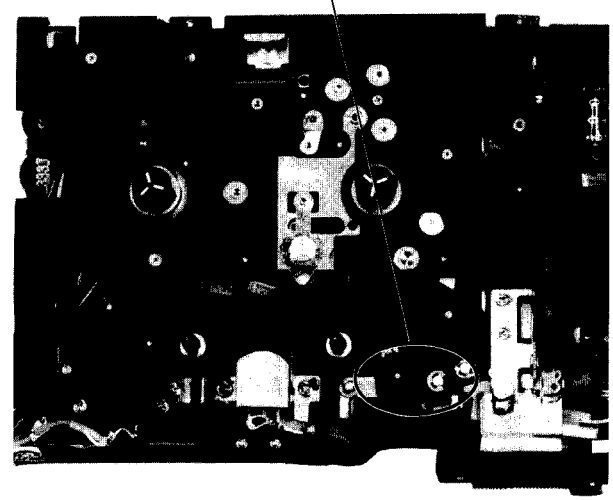
record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback and erase head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Pinch Roller Pressure Measurement

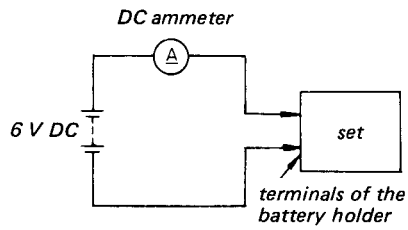
– Playback Mode –


❷ Slowly return the pinch roller and read the spring scale just when the pinch roller starts rotating. (The capstan should first contacts here.)
center
capstan
pinch roller
❶ spring scale
200 – 280 g (7.05 – 9.88 oz)

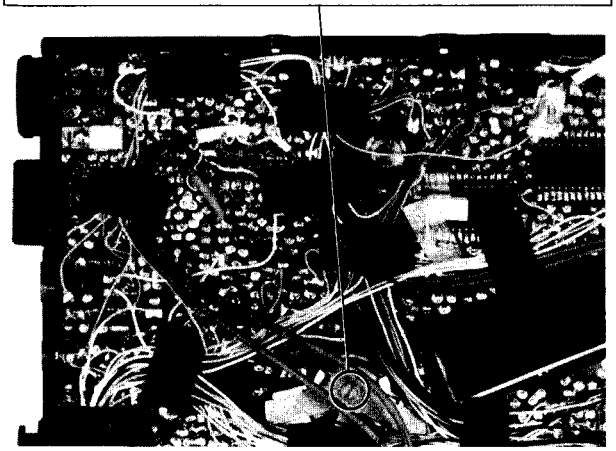


Flywheel Thrust Play Adjustment

– Playback Mode –

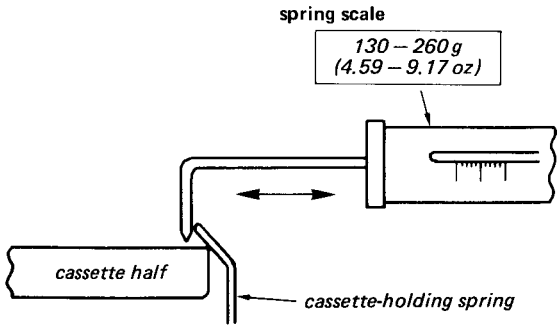


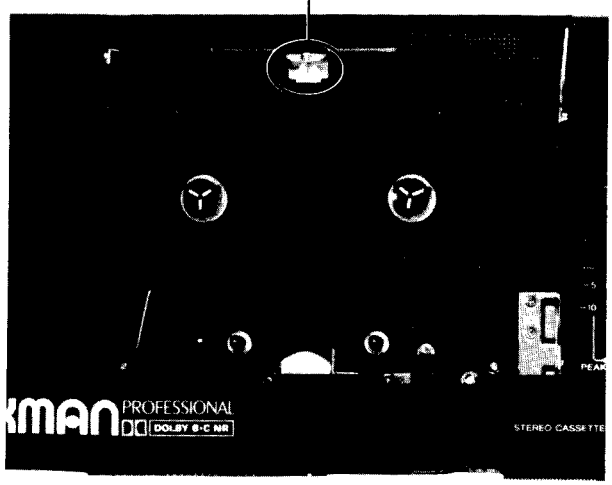
1. Turn the thrust screw counterclockwise until the screw tip leaves from the flywheel shaft.
2. Gradually turn the thrust screw clockwise to the position where the motor current suddenly increases.
3. Then, turn the thrust screw counterclockwise about ¼ turn from the position obtained in step 2.



Cassette-holding Spring Adjustment

1. Pull the spring scale outward until the cassette-holding spring releases from the cassette half.
2. Slowly return the spring scale back to the cassette half until the spring just touches the edge of the cassette half. Read the spring scale at this instant.
3. Adjust the spring by bending back and forth to satisfy the spring scale value.





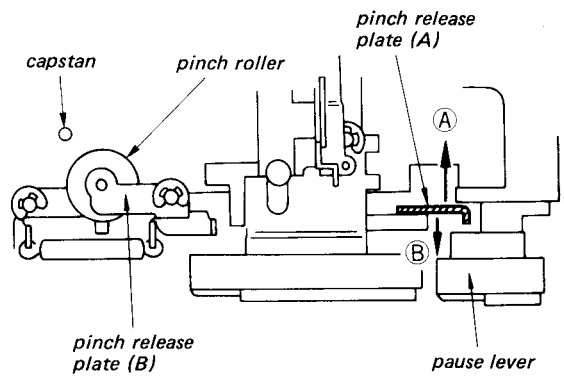
Pause Action Adjustment

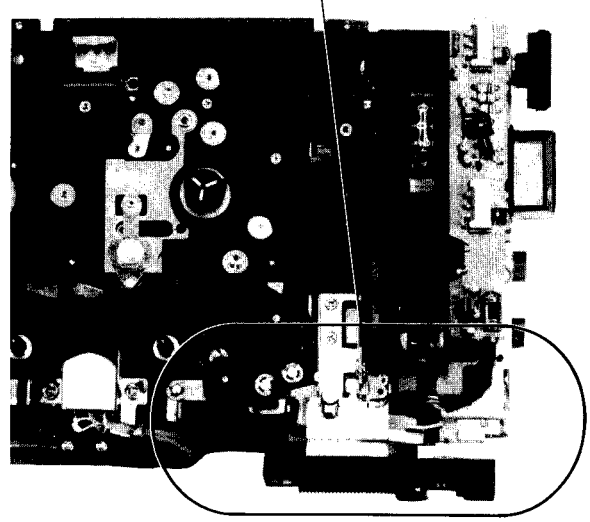
1. Insert a cassette tape and put into playback mode.
2. At this time, confirm that the pinch release plate (A) does not touch on the pinch release plate (B) and the pause lever.
3. Check for the lock timing when the pause button is pushed in playback mode.

   Lock timing: The tape is stopped without placing in cue mode and is not reversed after the pinch roller is detached from the capstan.

4. When pushing the pause button again to restart the set, make sure that the pinch roller is contact with the capstan after the unit begins to take the tape up without placing in cue mode. Make sure that the take-up reel table does not rotate after the pinch roller is contact with the capstan.

When putting the pause button ON or OFF.	Adjustment of the pinch release plate (A)
In case of CUE mode.	Bend to Ⓐ side.
In case of reversing.	Bend to Ⓑ side.

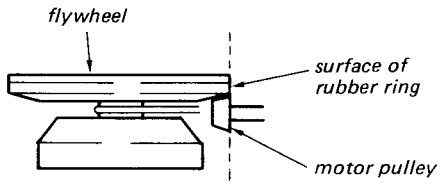




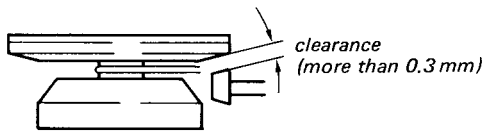
Motor Pressure Measurement

– Playback Mode –

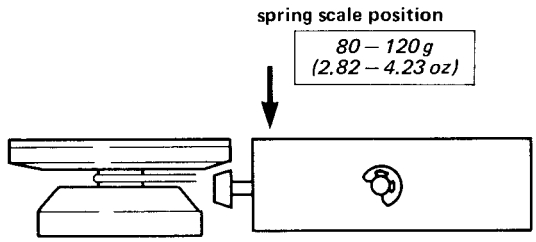
1. The motor pulley's inner edge (large side) should not extend from the edge of the flywheel's rubber ring.

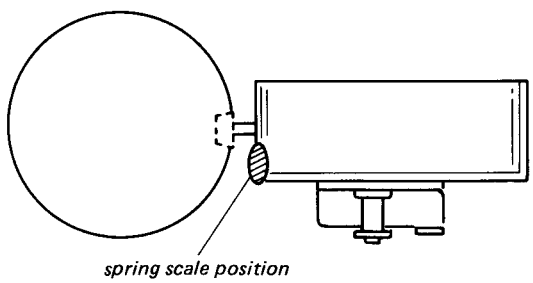


2. When the mode is changed from playback by slowly pressing the stop button, the motor pulley and rubber surface of the flywheel should have clearance.



3. In playback mode, put a spring scale vertically on the edge of the motor bracket as shown below, push the spring scale down vertically until the motor pulley just detaches from the flywheel's rubber ring and read the spring scale at this instance.



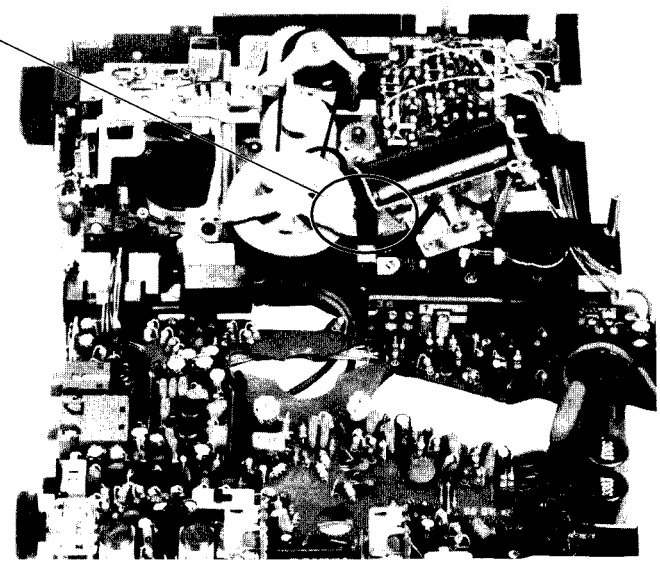


Torque Measurement

Torque	Torque Meter	Meter Reading
FWD	CQ-102C	25 – 43 g•cm (0.35 – 0.6 oz•inch)
Back Tension		1.5 – 3.5 g•cm (0.02 – 0.05 oz•inch)
FF•REW	CQ-201B	more than 75 g•cm (more than 1.04 oz•inch)

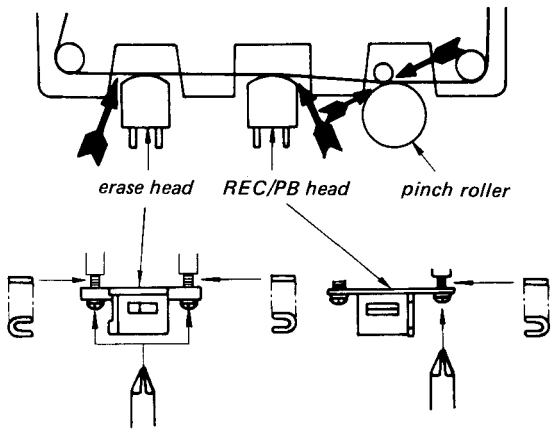
Tape Tension Measurement

Tension Meter	Meter Reading
CQ-403A	more than 65 g (more than 2.29 oz)

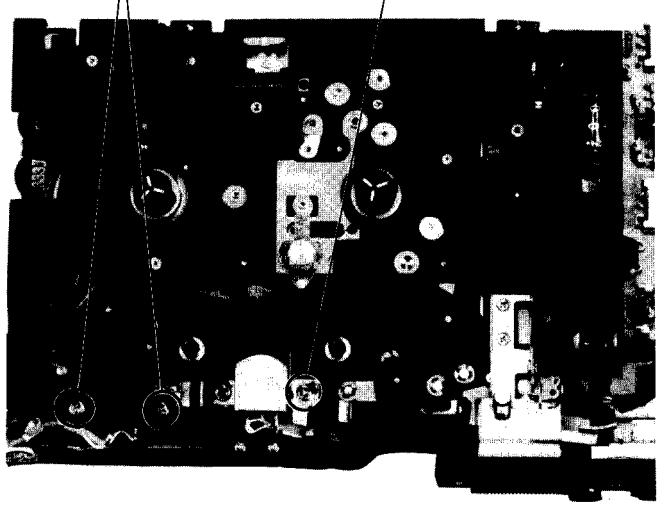


Tape Path Adjustment

1. Insert a mirror cassette (CQ-009C).
2. In playback mode and viewing from the front, confirm that there is no tape curl and tape twist at portions shown by arrow.
3. If there is tape curl and tape twist, adjust the head heights by using the adjustment plate. (Specifically no tape curls should exist at the lower sides of the tape guides.)



3-513-237-01 (t = 0.1)
head height adjustment plate



3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the TAPE switches according to the tape as follows.

Tape	TAPE switch
CS-15	NORM
CS-26	CrO_2
CS-40	METAL

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch . . . . . OFF
TAPE switch . . . . . NORM
MIC ATT switch . . . . . 0 dB
PEAK/BATT switch . . . . . PEAK
SPEED TUNE switch . . . . . OFF
SPEED TUNE control . . . . . center

- Standard Record:

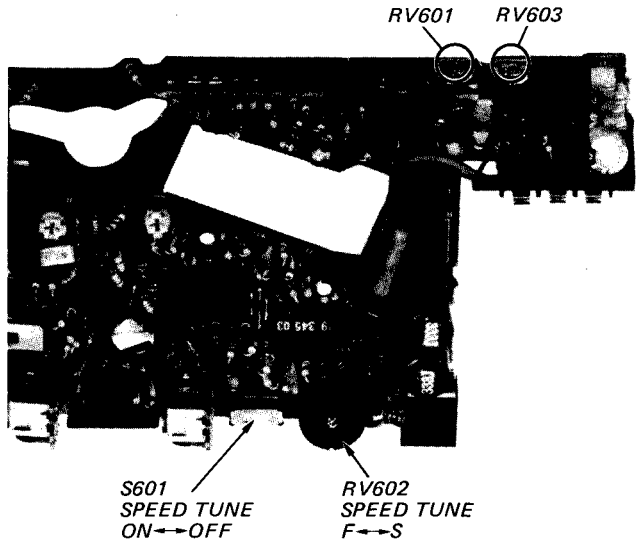
Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Standard Input Level

	MIC	LINE IN
source impedance	300Ω	10kΩ
input level	0.77mV (−60dB)	0.25V (−10dB)

Standard Output Level

	LINE OUT	HEAD-PHONES
load impedance	47kΩ	32Ω
output level	0.254V (−9.8dB)	0.25V (−10dB)

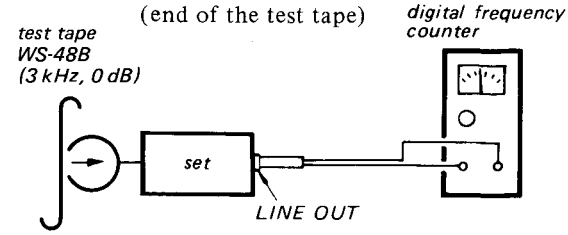


Tape Speed Adjustment

Note: Perform this adjustment after the Record/playback Head Azimuth Adjustment.

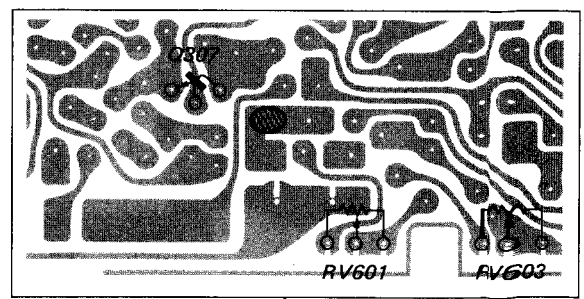
Procedure:

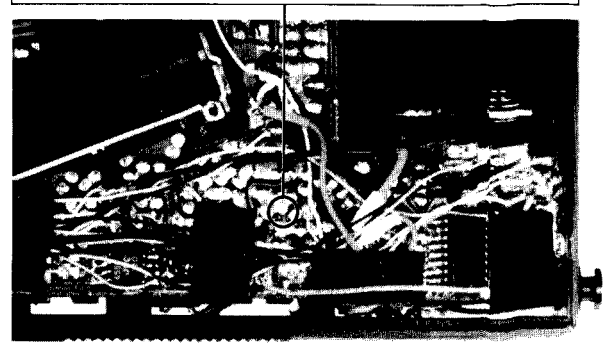
Mode: playback
(end of the test tape)



1. Set SPEED TUNE switch to OFF.
2. Unsolder the solder bridge and open the bridged patterns shown below.
3. Turn RV601 so that frequency reading becomes in 3,090 Hz ± 10 Hz.
4. Resolder the adjustment patterns opened in step 2 above. Now frequency reading should be 3,000 Hz ± 9 Hz.
5. Set SPEED TUNE switch to ON, and SPEED TUNE control to its center position.
6. Turn RV603 so that frequency reading becomes in 3,000 Hz ± 10 Hz.
7. Set SPEED TUNE control to maximum position in "S" direction. Now frequency reading should be below 2,884 Hz.
8. Set SPEED TUNE control to maximum stop in "F" direction. Now the frequency should be above 3,120 Hz.
9. Set SPEED TUNE control back to center position.

Adjustment Location: *– main board –*





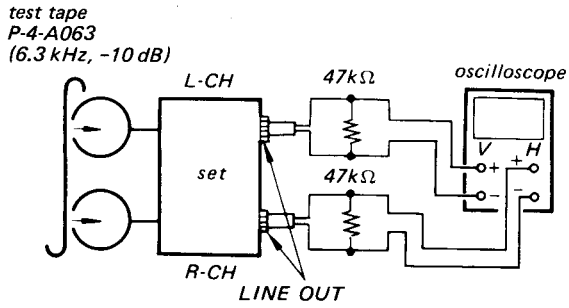
Record/playback Head Azimuth Adjustment

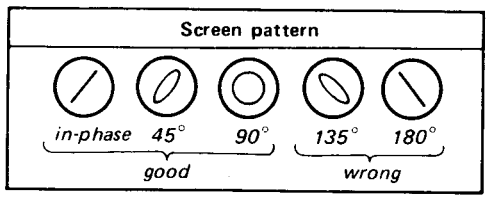
Setting:

RV101, 201 (playback level): mechanical mid

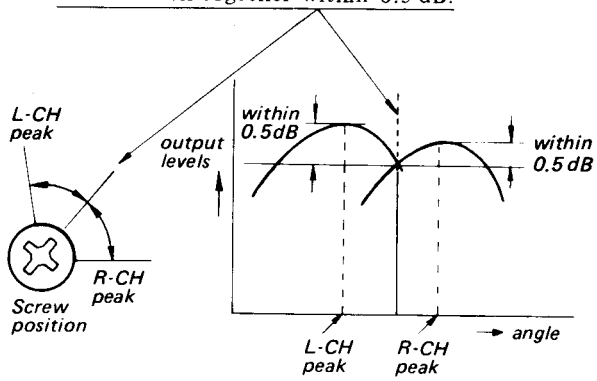
Procedure:

1. Mode: playback





2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.



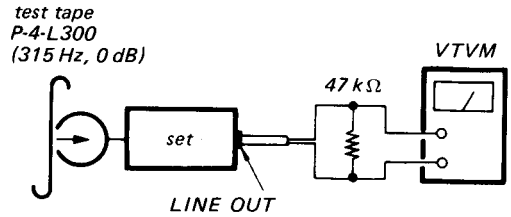
3. After adjustment, apply locking compound to the adjusted screw.

Adjustment Location:

Playback Level Adjustment

Procedure:

Mode: playback



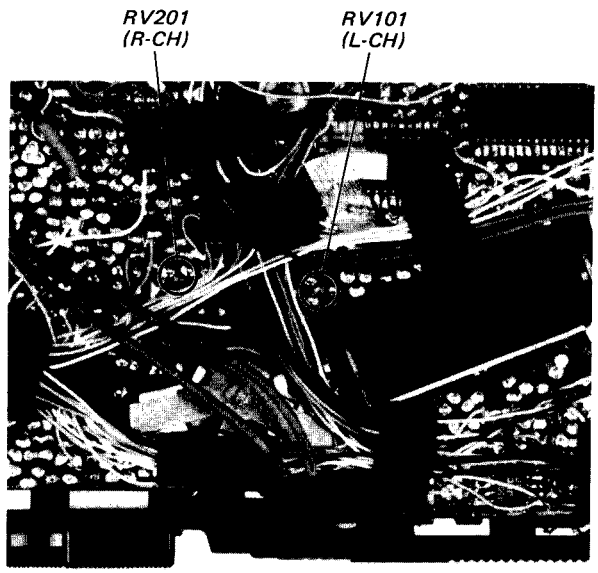
Specification:

LINE OUT level: 0.25 – 0.26 V
(-10 to -9.6 dB)

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

– main board –



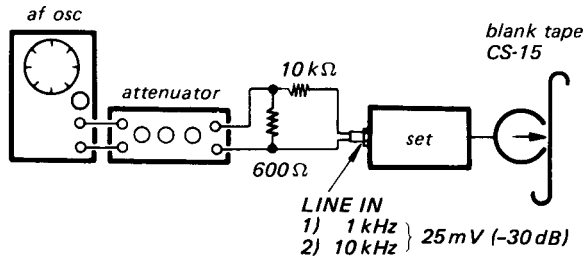
Record Bias Adjustment

Setting:

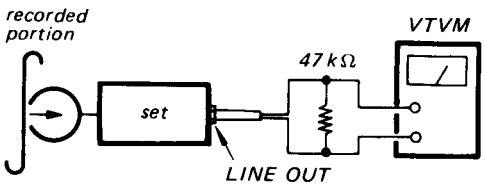
REC LEVEL control: standard record
LINE IN : -10 dB
LINE OUT : -9.8 dB

Procedure:

1. Mode: record



2. Mode: playback



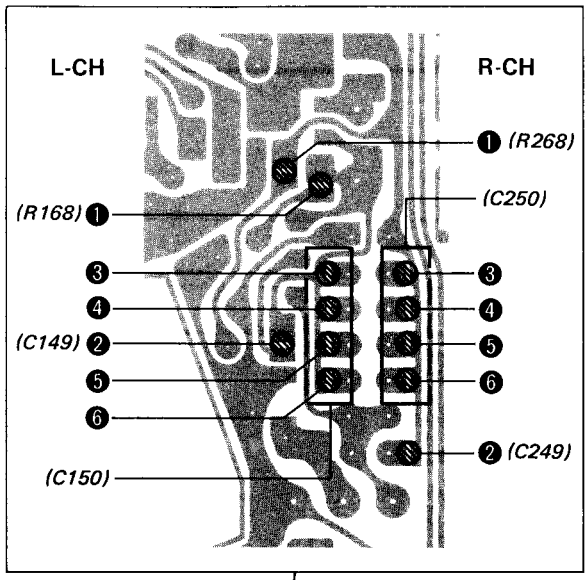
Confirm that the LINE OUT level of 10 kHz signal is 0 ± 0.5 dB relative to that of 1 kHz.

3. If it is not within 0 ± 0.5 dB, change the pattern connection and repeat the steps 1 and 2.

Note: When the conductive patterns ❷ – ❻ are connected, and VTVM does not read 0 ± 0.5 dB, disconnect the pattern ❶. Repeat the steps 1 – 3.

Adjustment Location:

– main board –



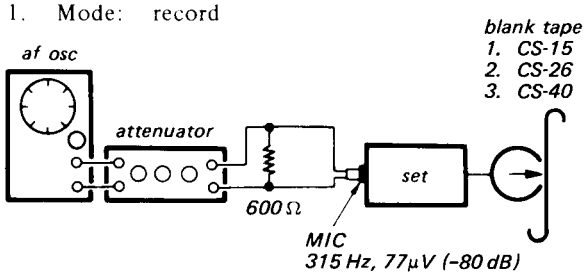
Record Level Adjustment

Setting:

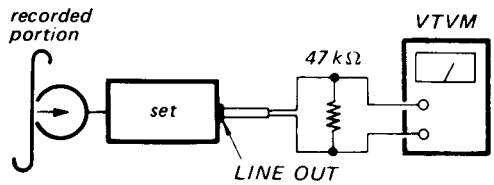
TAPE switch: changes over according as tape type

Procedure:

1. Mode: record



2. Mode: playback



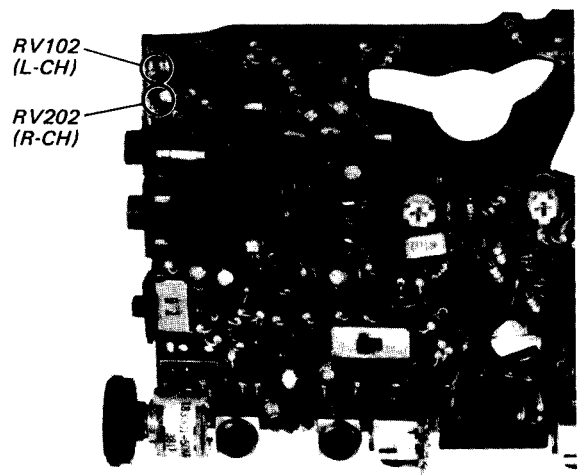
Insert a NORM tape (CS-15) and put into playback mode, adjust RV102 (L-CH) and RV202 (R-CH) to obtain the specified output level. Next, insart a CrO_2 tape (CS-26), METAL tape (CS-40) and put into playback mode, confirm that the output level is specified value.

Specification:

Tape	TAPE switch	Standard Output Level
CS-15	NORM	24 – 26.5 mV (-30.3 to -29.3 dB)
CS-26	CrO_2	21 – 30 mV (-31.3 to -28.3 dB)
CS-40	METAL	

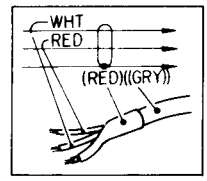
Adjustment Location:

– main board –



Note: FOR MOUNTING DIAGRAM

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- : B + pattern
- : signal path
- : L-CH signal path
- : R-CH signal path

Note: FOR SCHEMATIC DIAGRAM

- Components for right channel have same values as for left channel. Reference numbers are coded from 201.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6 W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : signal path
- : adjustment for repair.
- : B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions.

no mark: playback
( ) : record
[ ] : rewind
< > : fast forward
(( )) : pause

I: NORM
II: CrO_2
IV: METAL
} TAPE switch

- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings with a VTVM.
- Total current is measured with no cassette installed.

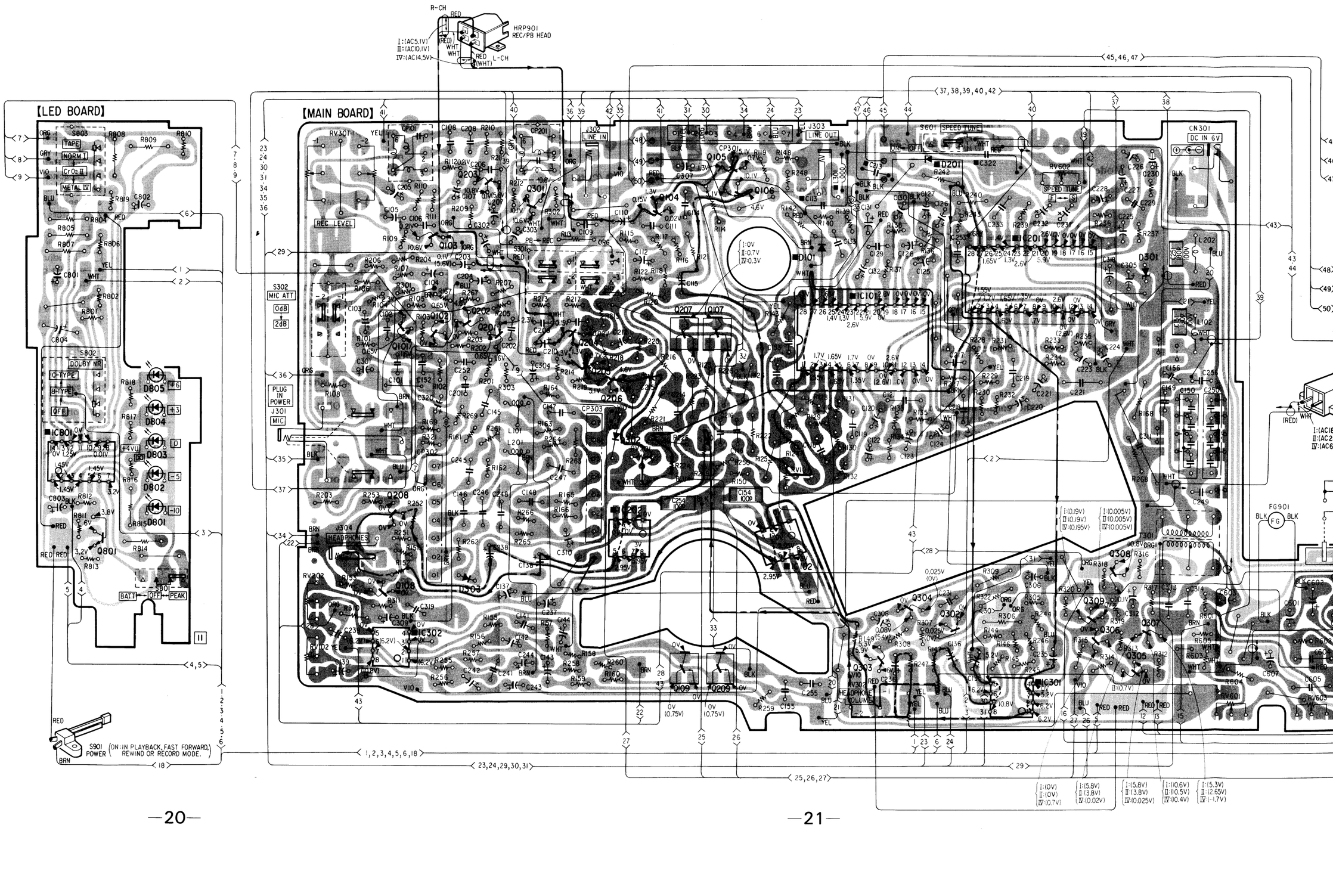
Note: Voltages are measured with a VOM (50kΩ/V).

4-1. MOUNTING DIAGRAM

– Conductor Side –

- Refer to page 26 for semiconductor lead layouts.
- Refer to page 19 for notes.

Q IC	IC801 801 108 208 101 103 102 IC302 202 203 201 301 204 205 206 IC202 104 207 109 107 105 209 106 IC102 303 IC101 304 302 IC301 IC201 309 306 308 305 307
D	805 804 803 802 801 303 302 101 201 301



7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

for notes.

| | | |

4-2. SCHEMATIC DIAGRAM • Refer to page 19 for notes.

[MAIN BOARD]

Q102,103 2SC2458L
MIC AMP

Q301 2SC2458
RIPPLE FILTER

Q101 2SA1048L
MIC AMP

[SPECTRAL SKEWING BOARD (L-CH)]

Q107 2SC1623
PB EQ SWITCH

IC101 CX20068
DOLBY B-C NR

IC301 NJM4558M
LINE AMP

Q104-106 2SC2458L
PB EQ AMP

IC302 NJM4558M
REC EQ AMP

D301 HZ3ALL

Q109 2SC1623
REC EQ MUTING

D303 1SI555

[LED BOARD(1/3)]

[AUTO OFF BOARD]

R-CH IS THE SAME AS L-CH. (REF No. 200—)

D302 1SI555

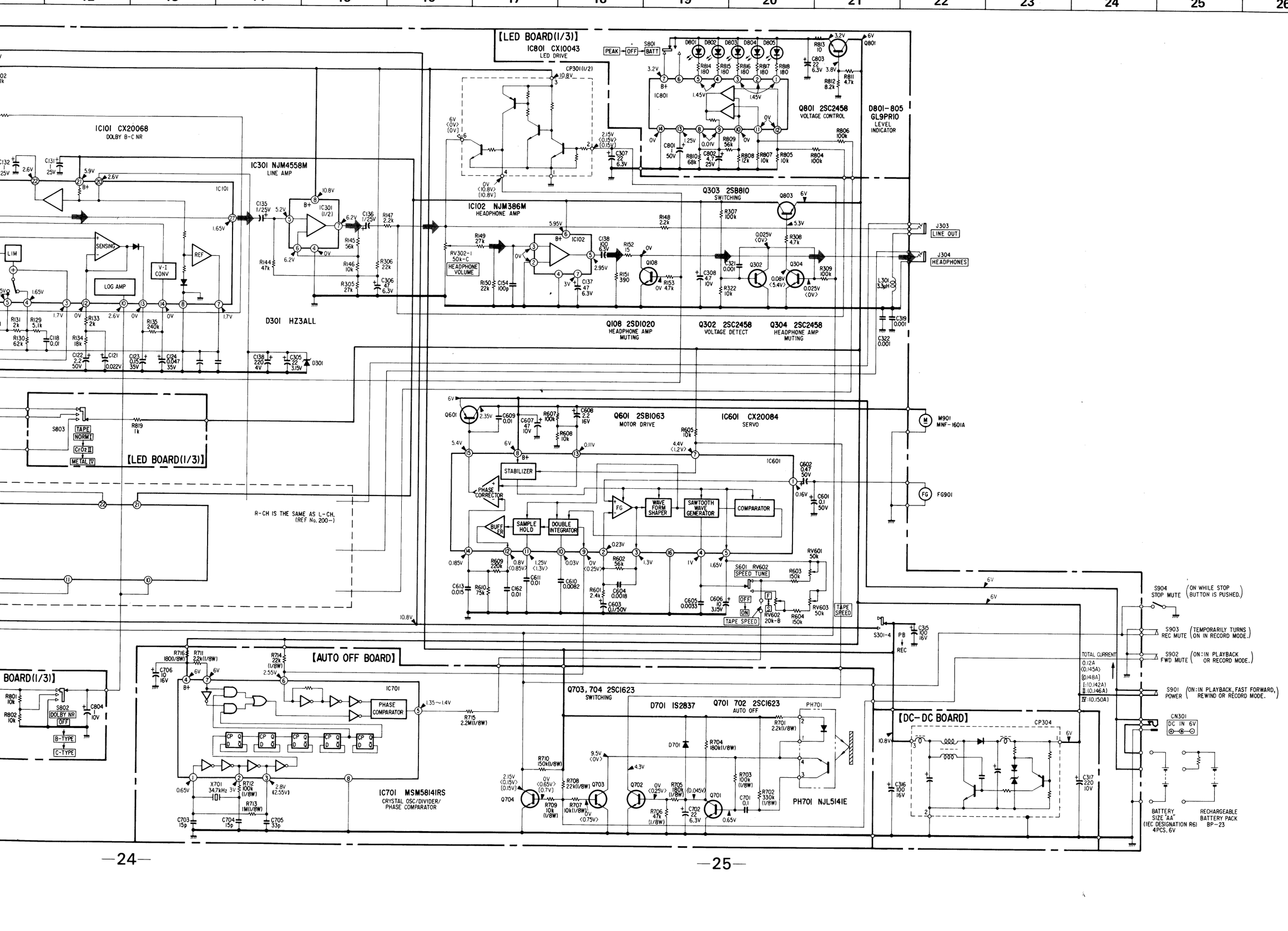
Q308 2SB810
SWITCHING

Q309 2SC2458
BIAS TIMING

Q307 2SC2001
BIAS OSC

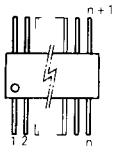
Q305,306 2SD1020
BIAS SWITCHING

IC701 MSM5814IRS
CRYSTAL OSC/DIVIDER/
PHASE COMPARATOR

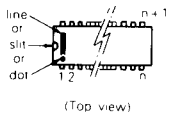

【LED BOARD(1/3)】
IC801 CX10043
LED DRIVE
S801
PEAK
OFF
BATT
D801 D802 D803 D804 D805
R813 10
R814 180
R815 180
R816 180
R817 180
R818 180
C803 22 6.3V
R812 8.2k
R811 4.7k
Q801
Q801 2SC2458
VOLTAGE CONTROL
D801-805
GL9PR10
LEVEL INDICATOR
R806 100k
R804 100k
R805 10k
R807 10k
R808 12k
R809 56k
R810 68k
C801 1 50V
C802 4.7 25V
CP301(1/2)
C307 22 6.3V
IC101 CX20068
DOLBY B-C NR
IC301 NJM4558M
LINE AMP
IC301 (1/2)
C135 1/25V
C136 1/25V
R147 2.2k
R144 47k
R145 56k
R146 10k
R306 22k
R305 27k
C306 47 6.3V
D301 HZ3ALL
C138 220 4V
C305 22 3.15V
D301
IC102 NJM386M
HEADPHONE AMP
R148 2.2k
R149 27k
RV302-1 50k-C
HEADPHONE VOLUME
R150 22k
C154 100p
C138 100 6.3V
R152 15
R151 390
Q108
R153 4.7k
C137 47 6.3V
Q303 2SB810
SWITCHING
Q803
R307 100k
R308 4.7k
C308 4.7 10V
C321 0.001
Q302
Q304
R309 100k
R322 10k
Q108 2SD1020
HEADPHONE AMP MUTING
Q302 2SC2458
VOLTAGE DETECT
Q304 2SC2458
HEADPHONE AMP MUTING
J303
LINE OUT
J304
HEADPHONES
L301 3.3μH
C319 0.001
C322 0.001
LIM
SENSING
REF
V-I CONV
LOG AMP
R131 2k
R129 5.1k
R130 6.2k
C118 0.01
R134 18k
R133 2k
R135 240k
C122 2.2 50V
C121 0.022
C123 0.15 35V
C124 0.047 35V
S803
TAPE
NORM I
CrO2 II
METAL IV
R819 1k
【LED BOARD(1/3)】
R-CH IS THE SAME AS L-CH. (REF No. 200-)
Q601
C609 0.01
C607 47 10V
R607 100k
C608 2.2 16V
R608 10k
Q601 2SB1063
MOTOR DRIVE
IC601 CX20084
SERVO
R605 10k
IC601
STABILIZER
PHASE CORRECTOR
FG
WAVE FORM SHAPER
SAWTOOTH WAVE GENERATOR
COMPARATOR
BUFFER
SAMPLE HOLD
DOUBLE INTEGRATOR
C602 0.47 50V
C601 0.1 50V
R609 220k
R610 75k
C613 0.015
C611 0.01
C162 0.01
C610 0.0082
R602 56k
R601 2.4k
C604 0.0018
C603 0.1/50V
S601 RV602
SPEED TUNE
RV601 50k
R603 150k
RV603 50k
R604 150k
C605 0.0033
C606 10 3.15V
OFF
ON
RV602 20k-B
TAPE SPEED
M901
MNF-1601A
FG901
FG
S904
STOP MUTE
(ON WHILE STOP BUTTON IS PUSHED.)
S903
REC MUTE
(TEMPORARILY TURNS ON IN RECORD MODE.)
S902
FWD MUTE
(ON:IN PLAYBACK OR RECORD MODE.)
S901
POWER
(ON:IN PLAYBACK, FAST FORWARD, REWIND OR RECORD MODE.)
TOTAL CURRENT
0.12A
(0.145A)
[0.148A]
I:(0.142A)
II:(0.146A)
IV:(0.150A)
S301-4
PB
REC
C315 100 16V
CN301
DC IN 6V
BATTERY SIZE "AA" (IEC DESIGNATION R6) 4PCS. 6V
RECHARGEABLE BATTERY PACK BP-23
【DC-DC BOARD】
CP304
C316 100 16V
C317 220 10V
【AUTO OFF BOARD】
R716 180(1/8W)
R711 2.2k(1/8W)
R714 22k (1/8W)
C706 10 16V
IC701
PHASE COMPARATOR
R715 2.2M(1/8W)
X701 34.7kHz
R712 100k (1/8W)
R713 1M(1/8W)
C703 15p
C704 15p
C705 33p
IC701 MSM5814IRS
CRYSTAL OSC/DIVIDER/ PHASE COMPARATOR
Q703, 704 2SC1623
SWITCHING
D701 IS2837
Q701 702 2SC1623
AUTO OFF
PH701
R701 2.2k(1/8W)
D701
R704 180k(1/8W)
R710 150k(1/8W)
R708 22k(1/8W)
Q703
R709 10k (1/8W)
R707 10k(1/8W)
Q704
Q702
R705 180k (1/8W)
R706 47k (1/8W)
R703 100k (1/8W)
R702 330k (1/8W)
C701 0.1
C702 22 6.3V
Q701
PH701 NJL5141E
BOARD(1/3)】
R801 10k
R802 10k
S802
DOLBY NR
OFF
B-TYPE
C-TYPE
C804 10V

Semiconductor Lead Layouts

CX10043
CX20068
CX20084
NJM386M
NJM4558M

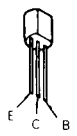


MSM58141RS

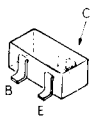


2SA1048-GR
2SB808
2SC2458
2SC2458L-BL

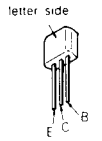
2SB1013
2SC2001



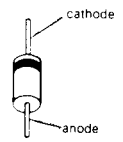
2SC1623



2SD1020



1S1555
HZ3ALL



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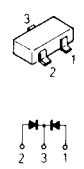
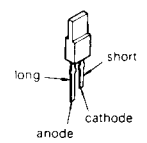


GL9PR10



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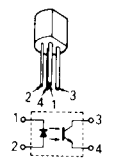
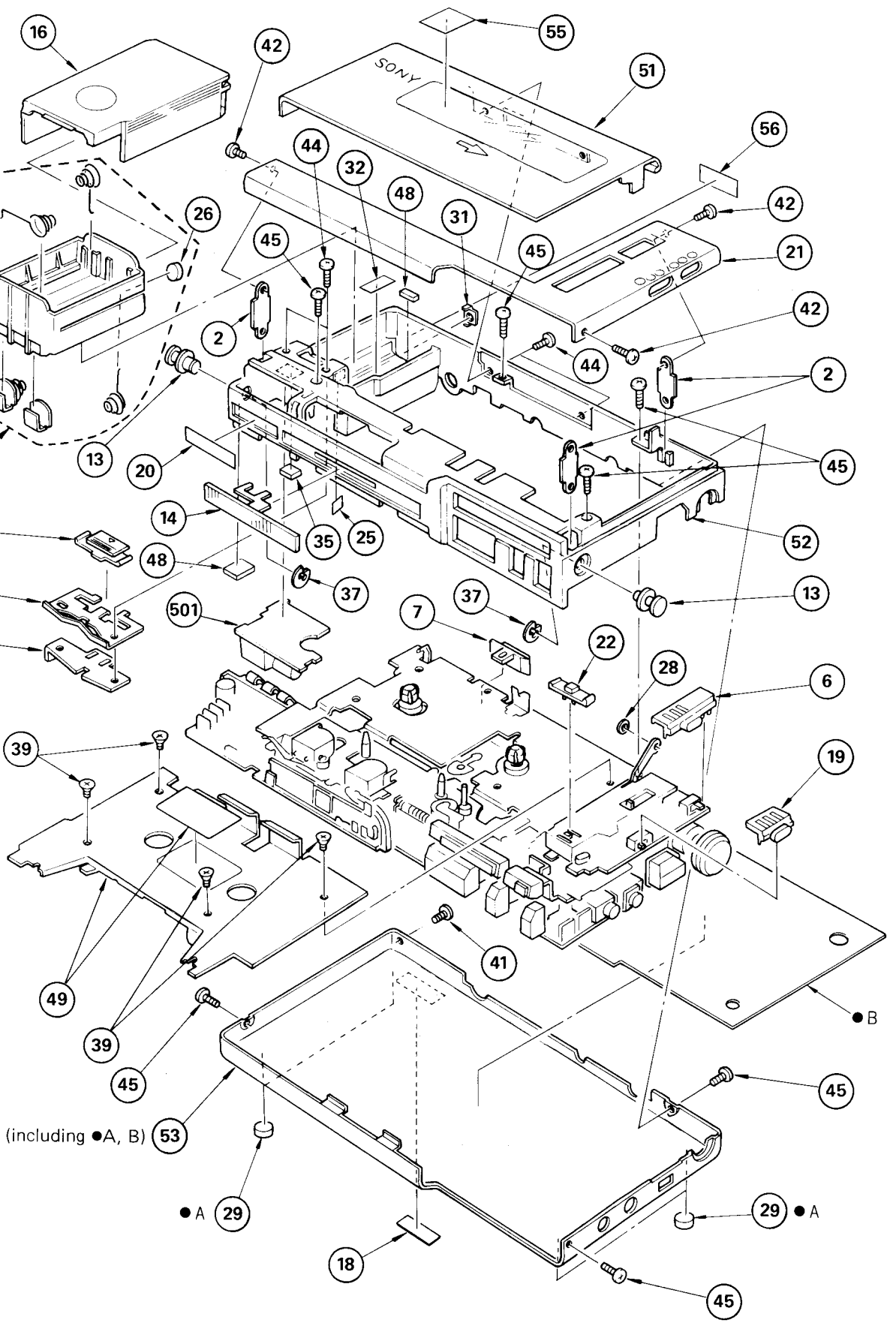
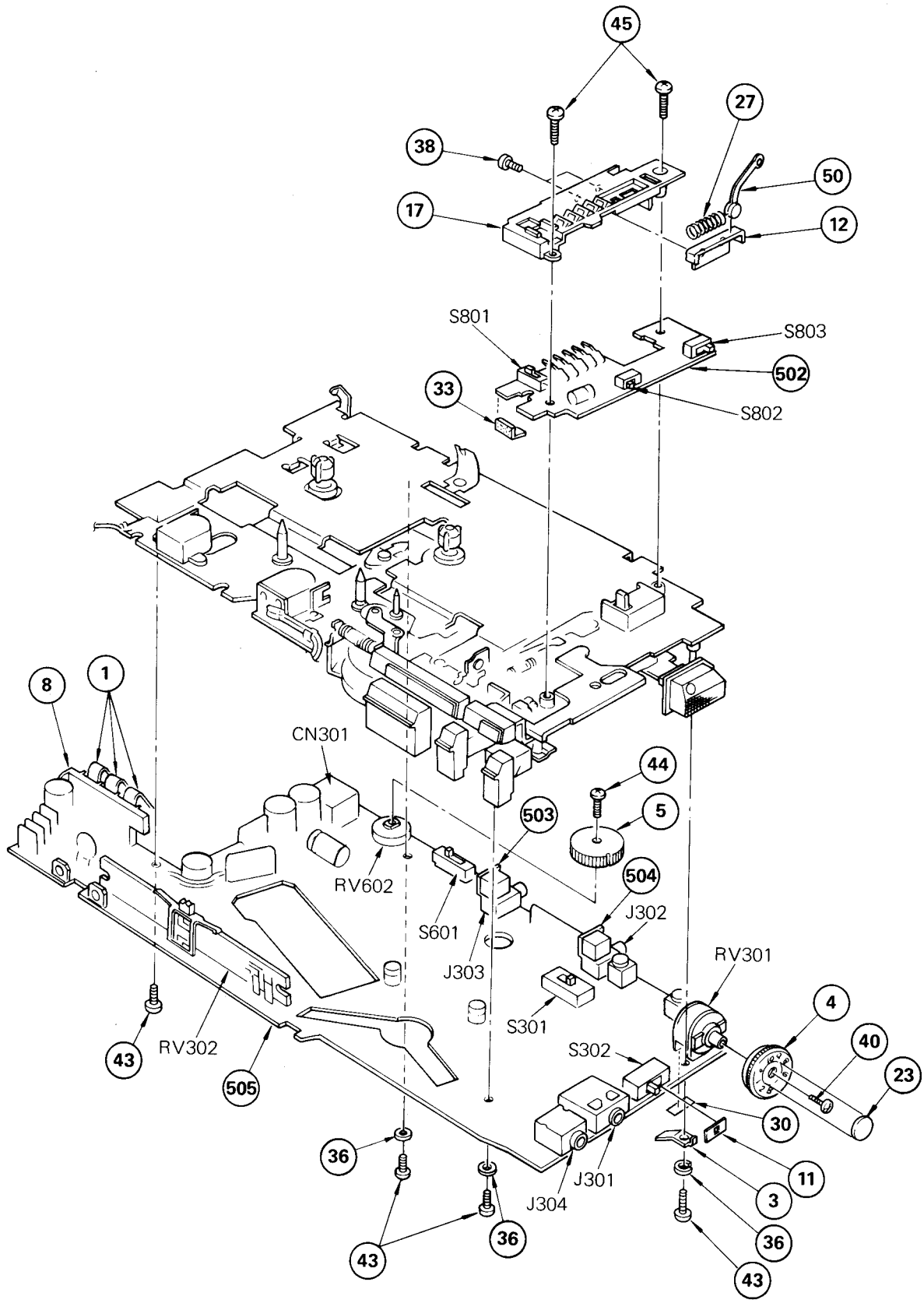


5-1.



5-2.


45
27
38
50
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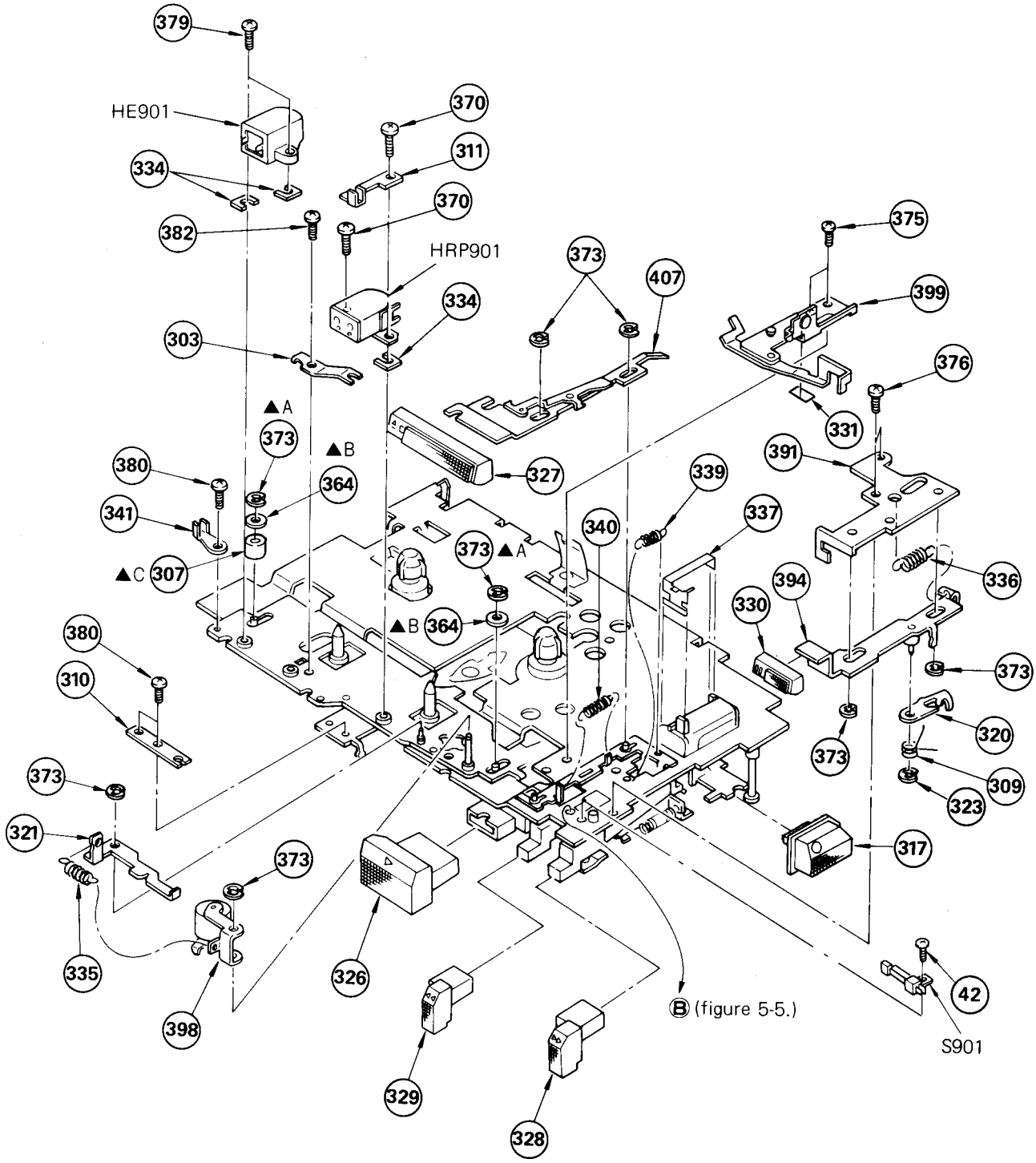
12
S801
S803
502
33
S802
CN301
8
1
44
5
503
504
RV602
S601
J303
J302
RV301
S301
4
40
23
30
S302
RV302
43
505
36
J304
J301
11
3
36
43

5-3.


379
HE901
370
311
334
370
382
HRP901
373
407
375
399
334
303
376
331
▲A
373
▲B
391
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341
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337
373 ▲A
▲C 307
336
394
330
▲B 364
380
373
310
320
373
309
323
373
321
317
373
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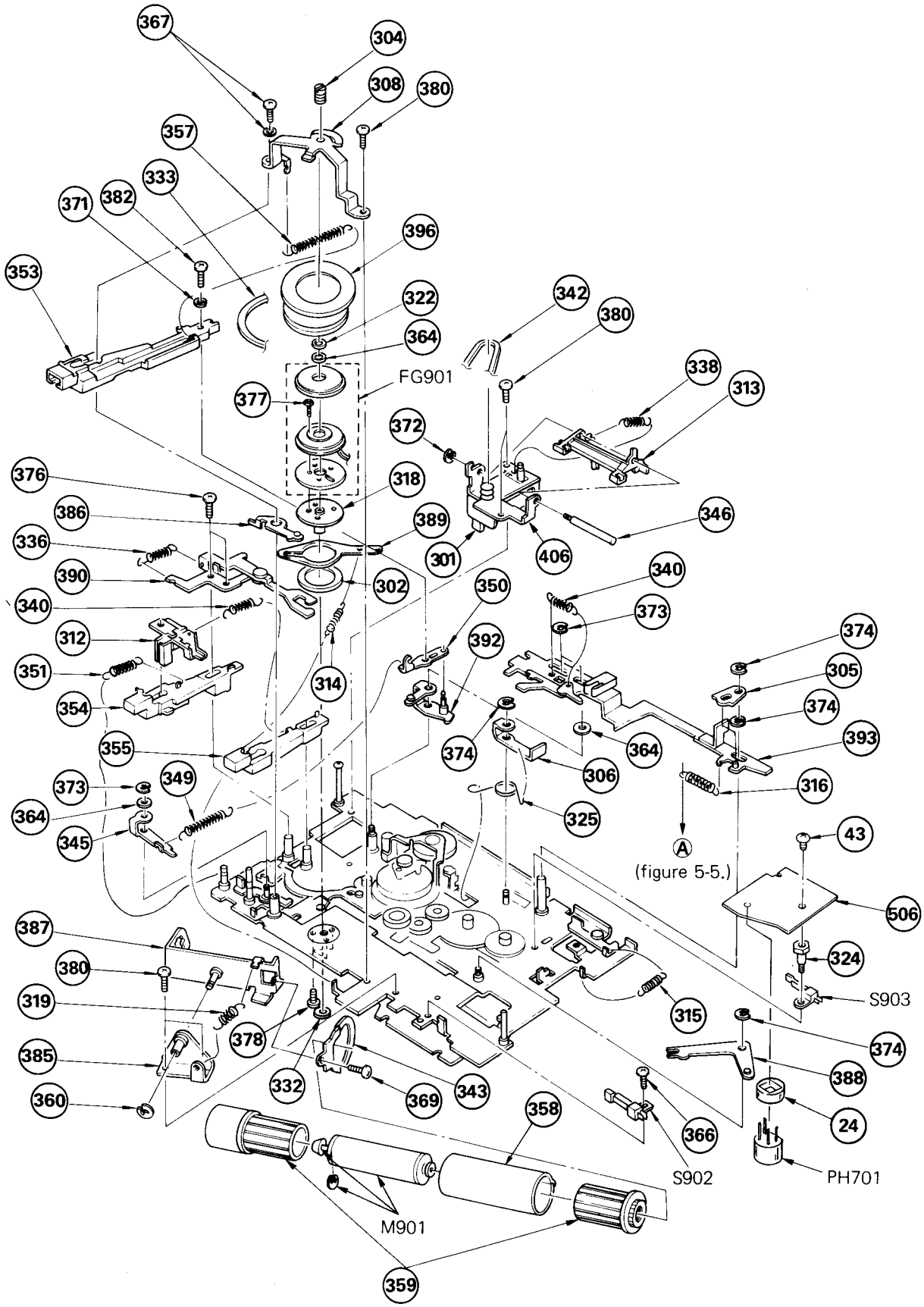
326
398
42
Ⓑ (figure 5-5.)
S901
329
328

5-4.


367
304
308
380
357
333
371
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353
322
342
380
364
FG901
338
313
377
372
376
318
386
389
346
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301
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354
374
374
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393
355
306
316
373
349
325
364
345
A
(figure 5-5.)
43
506
387
324
380
S903
319
315
374
378
385
332
369
343
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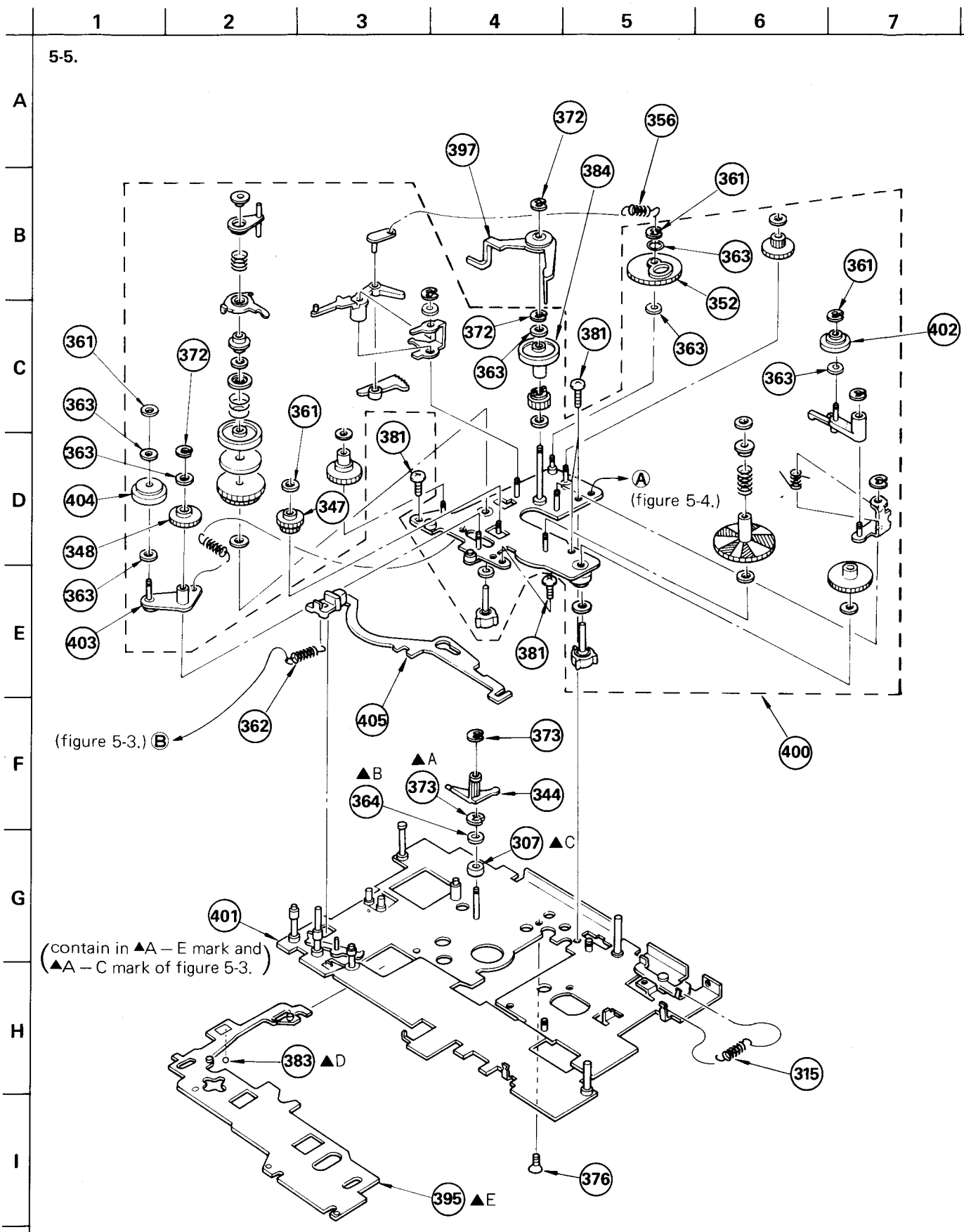
360
358
366
24
S902
PH701
M901
359

5-5.


1
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6
7
A
B
C
D
E
F
G
H
I
J
372
356
397
384
361
363
352
361
402
372
381
363
363
361
372
363
363
361
381
404
347
348
363
403
Ⓐ
(figure 5-4.)
381
362
405
400
(figure 5-3.) Ⓑ
373
▲A
▲B
373
344
364
307 ▲C
401
(contain in ▲A – E mark and
▲A – C mark of figure 5-3.)
383 ▲D
315
376
395 ▲E

GENERAL SECTION

No.	Part No.	Description
1	3-305-801-00	SPRING
2	3-305-802-00	PLATE, NUT
3	3-305-804-00	SPRING
4	3-305-867-00	KNOB (A), CONTROL, REC
5	3-305-868-00	KNOB, SPEED CONTROL
6	3-305-871-11	KNOB, TAPE SELECTOR
7	3-305-872-00	KNOB, SWITCH, SPEED CONTROL
8	3-305-873-00	TERMINAL BOARD, BATTERY
9	3-305-874-00	SPRING
10 ♦	3-305-875-00	CHASSIS, CLAW, LOCK
11	3-305-887-00	COVER, SWITCH
12 ♦	3-305-888-00	RETAINER
13	3-305-889-00	SHAFT, BELT, CARRYING
14	3-305-891-00	KNOB, CONTROL, SLIDE
15	3-305-892-00	CLAW, LOCK
16	3-305-896-00	CASE, BATTERY
17	3-305-897-00	HOLDER, LED
18	3-305-947-00	LABEL, DOLBY
19	3-305-961-01	KNOB, DOLBY
20	3-305-962-01	LABEL, FRONT
21	3-305-963-01	(WM-D6C)...PANEL, UPPER
21	3-305-969-01	(TC-D6C)...PANEL, UPPER
22	3-305-966-01	KNOB, METER
23	3-305-967-01	PLATE, ORNAMENTAL
24 ♦	3-308-430-00	RETAINER, REFLECTOR, PHOTO
25	9-910-840-XX	CUSHION, RELEASE (t=3)
26	3-527-126-00	MARK, BATTERY CASE
27	3-557-575-00	SPRING, COMPRESSION
28	3-570-615-00	POLY-WASHER (DIA.1.2)
29	3-570-903-00	LEG
30 ♦	3-572-862-00	SPACER
31	3-574-744-00	PLATE (B), NUT
32	3-701-999-00	LABEL, SERIAL NUMBER
33	3-831-441-XX	SPACER (t=0.5)
34	3-831-441-XX	CUSHION (t=0.5)
35	3-884-171-00	STOPPER
36	7-623-203-11	SW 1.4,TYPE 1
37	7-624-106-04	STOP RING 3.0, TYPE -E
38	7-627-451-38	SCREW, PRECISION +K 1.4X2
39	7-627-551-08	SCREW, PRECISION +P 1.4X1.6
40	7-627-552-37	SCREW, PRECISION +P 1.7X3
41	7-627-850-08	SCREW, PRECISION +P 1.4X2
42	7-627-850-18	SCREW, PRECISION +P 1.4X2.5
43	7-627-850-27	SCREW, PRECISION +P 1.4X3
44	7-627-850-28	SCREW, PRECISION +P 1.4X3
45	7-627-850-58	SCREW, PRECISION +P 1.4X3.5

GENERAL SECTION

No.	Part No.	Description
46	9-911-837-XX	SPACER (t=1)
47	9-911-841-XX	CUSHION (B)(t=5)
48	9-911-845-XX	CUSHION (A)(t=5)
49	A-3043-068-A	PANEL SUB ASSY, REEL
50	X-3305-801-0	ARM ASSY
51	X-3305-818-0	LID ASSY, CASSETTE
52	X-3305-834-1	CABINET ASSY
53	X-3305-835-1	PANEL ASSY, LOWER
54	X-3564-820-0	HOLDER ASSY, BATTERY
55	3-703-707-01	STICKER, SONY SYMBOL (21)
56	3-305-968-01	(TC-D6C)...LABEL, MODEL NUMBER

ACCESSORY & PACKING MATERIAL

Part No.	Description
A-1-463-138-00	(TC-D6C)...ADAPTOR, AC (AC-SW)
1-555-658-00	CORD, CONNECTION (RK-129)
3-305-935-00	(WM-D6C)...SPACER
3-305-972-00	(TC-D6C)...SPACER
3-305-973-00	(TC-D6C)...INDIVIDUAL CARTON
3-305-981-00	(WM-D6C)...INDIVIDUAL CARTON
3-305-975-00	(TC-D6C)...CUSHION
3-305-938-00	(WM-D6C)...CUSHION
3-305-980-00	(WM-D6C)...COVER, ACCESSORY
3-305-940-00	BAND, SHOULDER
3-305-970-00	CASE, CARRYING
3-570-631-71	BAG, POLYETHYLENE, FOR SET
3-701-618-00	BAG, POLYETHYLENE, FOR CONNECTION CORD
3-701-625-00	BAG, POLYETHYLENE, FOR INSTRUCTION MANUAL
3-773-736-11	(AEP)...MANUAL, INSTRUCTION
3-773-736-21	(US)....MANUAL, INSTRUCTION
3-773-736-31	(Canadian,AEP,UK,E)....MANUAL, INSTRUCTION
3-773-766-21	(TC-D6C).....MANUAL, INSTRUCTION
3-795-748-21	(US)....SAFETY INSTRUCTIONS, HEADPHONE
8-810-036-90	(TC-D6C)...ECM-939LT SET
8-951-173-90	(WM-D6C)...MDR-40L SET

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MECHANISM SECTION

No.	Part No.	Description
301	1-548-516-41	TIMER, TAPE
302 ♣	3-305-807-00	RING, MOTOR LEVER
303	3-305-808-00	SPRING
304	3-305-810-00	SCREW, THRUST ADJUSTMENT
305	3-305-812-00	LEVER (C), REC
306 ♣	3-305-815-00	LEVER (A), MUTING
307	3-305-839-00	ROLLER (SMALL)
308	3-305-846-00	RETAINER, THRUST
309	3-305-856-00	SPRING
310 ♣	3-305-857-00	RETAINER, FG LEAD WIRE
311	3-305-858-00	CLAMP, LEAD WIRE
312	3-305-863-00	HOLDER, LEAD WIRE
313	3-305-865-00	PLATE, LOCK
314	3-305-901-00	SPRING, TENSION
315	3-305-902-00	SPRING, TENSION
316	3-305-903-00	SPRING, TENSION
317	3-305-908-00	BUTTON, REC
318	3-305-910-00	BEARING (A), CAPSTAN
319	3-305-914-00	SPRING, TENSION
320	3-305-915-00	PLATE, LOCK, PAUSE
321	3-305-917-00	PLATE (B), RELEASE, PINCH
322	3-305-925-00	WASHER
323	3-305-926-00	POLY-WASHER, 1.7DIA
324	3-305-952-01	SCREW, SWITCH
325	3-305-953-01	SPRING
326	3-305-956-01	BUTTON, FWD
327	3-305-957-01	BUTTON, STOP
328	3-305-958-01	BUTTON, FF
329	3-305-959-01	BUTTON, REW
330	3-305-960-01	BUTTON, PAUSE
331 ♣	3-309-729-00	SHEET, LEAF SWITCH
332	3-314-576-00	WASHER
333	3-480-136-00	BELT (B)
334	3-513-237-01	PLATE
335	3-527-189-00	SPRING, TENSION
336	3-527-190-00	SPRING, TENSION
337 ♣	3-305-971-01	TERMINAL PLATE
338	3-547-666-00	SPRING, TENSION
339	3-547-667-00	SPRING, TENSION
340	3-547-669-00	SPRING, TENSION
341 ♣	3-547-686-00	CLAMP (B), WIRE
342	3-554-103-00	BELT, DRIVING
343 ♣	3-556-269-00	BRACKET (B), M
344	3-557-402-00	LEVER (C), RELEASE
345	3-557-405-00	LEVER, SPRING HOOK

MECHANISM SECTION

No.	Part No.	Description
346	3-557-408-00	SHAFT, LOCK PLATE
347	3-557-439-00	GEAR (A), F.R
348	3-557-440-00	GEAR (B), F.R
349	3-557-495-00	SPRING, TENSION
350	3-557-497-00	ARM, JOINT
351	3-557-498-00	SPRING, TENSION
352	3-557-509-00	GEAR (3)
353	3-557-514-00	LEVER, FWD
354	3-557-515-00	LEVER, FF
355	3-557-516-00	LEVER, REWIND
356	3-557-579-00	SPRING, TENSION
357	3-557-581-00	SPRING, TENSION
358 ♣	3-557-805-00	CASE, SHIELD, M
359 ♣	3-557-813-00	RUBBER, VIBRATION PROOF
360	3-558-708-21	WASHER, STOPPER
361	3-559-408-00	POLY-WASHER, 1.2 DIA
362	3-570-894-00	SPRING, TENSION
363	3-701-436-01	WASHER, 1.6 (t=0.13)
364	3-701-437-01	WASHER, 2 (t=0.13)
365	.....	
366	3-703-502-22	SCREW
367	3-703-502-32	SCREW
368	3-831-441-XX	SPACER (t=0.5)
369	7-621-255-15	SCREW +P 2X3
370	7-621-255-25	SCREW +P 2X4
371	7-623-203-11	SW 1.4, TYPE 1
372	7-624-101-01	RING, RETAINING E-1.2
373	7-624-102-04	STOP RING 1.5, TYPE -E
374	7-624-104-04	STOP RING 2.0, TYPE -E
375	7-627-451-08	SCREW, PRECISION +K 1.4X1.6
376	7-627-451-27	SCREW, PRECISION +K 1.4X3
377	7-627-551-57	SCREW, PRECISION +P 1.4X3
378	7-627-551-78	SCREW, PRECISION +P 1.4X4
379	7-627-553-57	SCREW, PRECISION +P 2X4.5
380	7-627-850-07	SCREW, PRECISION +P 1.4X2
381	7-627-850-47	SCREW, PRECISION +P 1.4X1.6
382	7-627-851-27	SCREW, PRECISION +P 1.4X5
383	7-671-111-01	STEEL BALL 1MM
384	X-3305-804-0	PULLEY ASSY, MIDWAY
385 ♣	X-3305-806-0	BRACKET ASSY, MOTOR SHAFT
386	X-3305-807-0	LEVER (A) ASSY, MOTOR
387 ♣	X-3305-808-0	BRACKET ASSY, MOTOR
388	X-3305-809-0	LEVER (C) ASSY, MOTOR
389	X-3305-810-0	LEVER (B) ASSY, MOTOR
390	X-3305-811-0	CHASSIS ASSY, SO

NOTE:

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- Items marked " ♣ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
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CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

MECHANISM SECTION

No.	Part No.	Description
391	X-3305-812-0	CHASSIS ASSY, PAUSE
392	X-3305-813-0	LEVER (B) ASSY, REC
393	X-3305-814-0	LEVER (A) ASSY, REC
394	X-3305-821-0	LEVER ASSY, PAUSE
395 ♦	X-3305-823-0	CHASSIS ASSY, HEAD
396	X-3305-824-0	FLYWHEEL BLOCK ASSY
397 ♦	X-3305-826-0	LEVER ASSY, PREVENTION, SO
398	X-3305-827-0	PINCH LEVER ASSY
399	X-3305-828-0	TABLE ASSY, EJECT LEVER
400	X-3305-832-1	TABLE COMPLETE ASSY, BEARING
401 ♦	X-3305-833-1	CHASSIS ASSY, MECHANICAL
402	X-3557-407-0	IDLER ASSY, FWD
403 ♦	X-3557-408-0	LEVER (B) ASSY, F.R
404	X-3557-409-0	PULLEY ASSY, F.R
405	X-3557-411-0	LEVER (A) ASSY, F.R
406	X-3557-433-0	BRACKET ASSY, COUNTER
407	X-3568-702-0	LEVER ASSY, STOP

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501 ♦	1-611-493-11	PC BOARD, DC-DC
502 ♦	1-611-495-11	PC BOARD, LED
503 ♦	1-611-909-11	PC BOARD, SPECTRAL SKEWING (R)
504 ♦	1-611-910-11	PC BOARD, SPECTRAL SKEWING (L)
505 ♦	A-3068-070-A	MOUNTED PCB, MAIN
506 ♦	A-3068-074-A	MOUNTED PCB, AUTO-OFF

C101	1-124-499-00	ELECT	1MF	20%	50V
C102	1-102-074-00	CERAMIC	0.001MF	10%	50V
C103	1-131-386-00	TANTALUM	33MF	20%	6.3V
C104	1-131-408-00	TANTALUM	1MF	20%	35V
C105	1-131-408-00	TANTALUM	1MF	20%	35V
C106	1-102-074-00	CERAMIC	0.001MF	10%	50V
C107	1-123-615-00	ELECT	4.7MF	20%	35V
C108	1-161-011-00	CERAMIC	0.0068MF	10%	25V
C109	1-102-116-00	CERAMIC	680PF	10%	50V
C110	1-131-375-00	TANTALUM	4.7MF	20%	10V
C111	1-102-074-00	CERAMIC	0.001MF	10%	50V
C112	1-131-375-00	TANTALUM	4.7MF	20%	10V
C113	1-102-115-00	CERAMIC	560PF	10%	50V
C114	1-130-487-00	MYLAR	0.022MF	5%	50V
C115	1-131-408-00	TANTALUM	1MF	20%	35V
C116	1-130-479-00	MYLAR	0.0047MF	5%	50V
C117	1-102-106-00	CERAMIC	100PF	10%	50V
C118	1-130-483-00	MYLAR	0.01MF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C119	1-130-483-00	MYLAR	0.01MF	5%	50V
C120	1-131-389-00	TANTALUM	10MF	20%	3.15V
C121	1-161-017-00	CERAMIC	0.022MF	10%	25V
C122	1-124-257-00	ELECT	2.2MF	20%	50V
C123	1-131-342-00	TANTALUM	0.15MF	10%	35V
C124	1-131-400-00	TANTALUM	0.047MF	20%	35V
C125	1-131-400-00	TANTALUM	0.047MF	20%	35V
C126	1-131-400-00	TANTALUM	0.047MF	20%	35V
C127	1-131-342-00	TANTALUM	0.15MF	10%	35V
C128	1-131-342-00	TANTALUM	0.15MF	10%	35V
C129	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C130	1-124-252-00	ELECT	0.33MF	20%	50V
C131	1-131-408-00	TANTALUM	1MF	20%	35V
C132	1-131-408-00	TANTALUM	1MF	20%	35V
C133	1-130-483-00	MYLAR	0.01MF	5%	50V
C134	1-102-115-00	CERAMIC	560PF	10%	50V
C135	1-131-408-00	TANTALUM	1MF	20%	35V
C136	1-131-408-00	TANTALUM	1MF	20%	35V
C137	1-124-224-00	ELECT	47MF	20%	6.3V
C138	1-123-661-00	ELECT	100MF	20%	6.3V
C139	1-124-257-00	ELECT	2.2MF	20%	50V
C141	1-102-116-00	CERAMIC	680PF	10%	50V
C142	1-131-341-00	TANTALUM	0.1MF	20%	35V
C143	1-131-361-00	TANTALUM	2.2MF	20%	20V
C144	1-131-375-00	TANTALUM	4.7MF	20%	10V
C145	1-130-483-00	MYLAR	0.01MF	5%	50V
C146	1-130-485-00	MYLAR	0.015MF	5%	50V
C147	1-130-484-00	MYLAR	0.012MF	5%	50V
C148	1-130-485-00	MYLAR	0.015MF	5%	50V
C149	1-107-042-00	MICA	2.2PF		500V
C150	1-107-323-00	MICA CAPACITOR UNIT			
C151	1-163-988-00	CERAMIC CHIP	180PF	5%	100V
C152	1-102-074-00	CERAMIC	0.001MF	10%	50V
C153	1-102-115-00	CERAMIC	560PF	10%	50V
C154	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C155	1-102-115-00	CERAMIC	560PF	10%	50V
C156	1-107-208-00	MICA	18PF	5%	500V
C301	1-124-228-00	ELECT	22MF	20%	10V
C302	1-131-371-00	TANTALUM	10MF	20%	16V
C303	1-123-617-00	ELECT	10MF	20%	16V
C304	1-124-228-00	ELECT	22MF	20%	10V
C305	1-131-391-00	TANTALUM	22MF	20%	3.15V
C306	1-124-224-00	ELECT	47MF	20%	6.3V
C307	1-123-618-00	ELECT	22MF	20%	6.3V
C308	1-131-375-00	TANTALUM	4.7MF	20%	10V

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CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C309	1-124-224-00	ELECT	47MF	20%	6.3V
C310	1-123-612-00	ELECT	2.2MF	20%	50V
C311	1-130-896-00	FILM	0.0082MF	5%	400V
C312	1-131-361-00	TANTALUM	2.2MF	20%	20V
C313	1-130-479-00	MYLAR	0.0047MF	5%	50V
C314	1-161-005-00	CERAMIC	0.0022MF	10%	25V
C315	1-123-320-00	ELECT	100MF	20%	16V
C316	1-123-320-00	ELECT	100MF	20%	16V
C317	1-123-308-00	ELECT	220MF	20%	10V
C318	1-123-827-00	ELECT	220MF	20%	4V
C319	1-102-074-00	CERAMIC	0.001MF	10%	50V
C320	1-124-224-00	ELECT	47MF	20%	6.3V
C321	1-102-074-00	CERAMIC	0.001MF	10%	50V
C322	1-102-074-00	CERAMIC	0.001MF	10%	50V
C601	1-123-607-00	ELECT	0.1MF	20%	50V
C602	1-123-610-00	ELECT	0.47MF	20%	50V
C603	1-123-607-00	ELECT	0.1MF	20%	50V
C604	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C605	1-130-865-00	FILM	0.0033MF	5%	50V
C606	1-131-389-00	TANTALUM	10MF	20%	3.15V
C607	1-123-822-00	ELECT	47MF	20%	10V
C608	1-131-361-00	TANTALUM	2.2MF	20%	20V
C609	1-161-013-00	CERAMIC	0.01MF	10%	25V
C610	1-130-482-00	MYLAR	0.0082MF	5%	50V
C611	1-130-483-00	MYLAR	0.01MF	5%	50V
C612	1-130-483-00	MYLAR	0.01MF	5%	50V
C613	1-130-485-00	MYLAR	0.015MF	5%	50V
C701	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C702	1-123-618-00	ELECT	22MF	20%	6.3V
C703	1-163-161-00	CERAMIC CHIP	15PF	5%	50V
C704	1-163-161-00	CERAMIC CHIP	15PF	5%	50V
C705	1-163-169-00	CERAMIC CHIP	33PF	5%	50V
C706	1-123-617-00	ELECT	10MF	20%	16V
C801	1-124-255-00	ELECT	1MF	20%	50V
C802	1-124-238-00	ELECT	4.7MF	20%	25V
C803	1-123-618-00	ELECT	22MF	20%	6.3V
C804	1-131-418-00	TANTALUM	1MF	20%	10V
CN301	1-507-749-00	JACK, EXTENTION POWER (DC IN 6V)			
CP101	1-235-317-11	FILTER, LOW PASS			
CP102	1-235-318-11	FILTER, SP-SK			
CP201	1-235-317-11	FILTER, LOW PASS			
CP202	1-235-318-11	FILTER, SP-SK			
CP301	1-464-177-00	CIRCUIT UNIT, MUTING			
CP302	1-464-176-00	CIRCUIT UNIT, SWITCHING			
CP303	1-464-176-00	CIRCUIT UNIT, SWITCHING			
CP304	1-464-183-21	CONVERTER UNIT, DC-DC			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D101	8-719-815-55	DIODE 1S1555
D201	8-719-815-55	DIODE 1S1555
D301	8-719-942-31	DIODE HZ3ALL
D302	8-719-815-55	DIODE 1S1555
D303	8-719-815-55	DIODE 1S1555
D701	8-719-100-05	DIODE 1S2837
D801	8-719-909-10	DIODE GL9PR10
D802	8-719-909-10	DIODE GL9PR10
D803	8-719-909-10	DIODE GL9PR10
D804	8-719-909-10	DIODE GL9PR10
D805	8-719-909-10	DIODE GL9PR10
FG901	A-3164-245-A	COIL SUB ASSY, FG
HE901	8-825-724-00	HEAD, ERASE EF-201-36
HRP901	8-825-529-60	HEAD, REC/PB (PA259-3602A)
IC101	8-752-006-80	IC CX20068
IC102	8-759-700-50	IC NJM386M
IC201	8-752-006-80	IC CX20068
IC202	8-759-700-50	IC NJM386M
IC301	8-759-700-43	IC NJM4558M
IC302	8-759-700-43	IC NJM4558M
IC601	8-759-909-45	IC CX20084
IC701	8-759-958-14	IC MSM58141RS
IC801	8-759-909-40	IC CX10043
J301	1-507-794-31	JACK, SMALL TYPE (WITH SWITCH)(MIC)
J302	1-507-929-21	JACK (LINE IN)
J303	1-507-929-21	JACK (LINE OUT)
J304	1-507-929-11	JACK (HEAD PHONES)
L101	1-408-682-00	MICRO INDUCTOR 10MMH
L102	1-408-704-00	MICRO INDUCTOR 33MMH
L201	1-408-682-00	MICRO INDUCTOR 10MMH
L202	1-408-704-00	MICRO INDUCTOR 33MMH
L301	1-408-557-00	MICRO INDUCTOR 3.3UH
M901	X-3305-830-1	MOTOR ASSY (MNF-1601A)
PH701	8-719-751-42	DIODE NJL5141E
Q101	8-729-204-83	TRANSISTOR 2SA1048-GR
Q102	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q103	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q104	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q105	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q106	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q107	8-729-100-66	TRANSISTOR 2SC1623
Q108	8-729-102-03	TRANSISTOR 2SD1020
Q109	8-729-100-66	TRANSISTOR 2SC1623

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ELECTRICAL PARTS

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Q201	8-729-204-83	TRANSISTOR 2SA1048-GR
Q202	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q203	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q204	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q205	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q206	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q207	8-729-100-66	TRANSISTOR 2SC1623
Q208	8-729-102-03	TRANSISTOR 2SD1020
Q209	8-729-100-66	TRANSISTOR 2SC1623
Q301	8-729-245-83	TRANSISTOR 2SC2458
Q302	8-729-245-83	TRANSISTOR 2SC2458
Q303	8-729-800-83	TRANSISTOR 2SB808
Q304	8-729-245-83	TRANSISTOR 2SC2458
Q305	8-729-102-03	TRANSISTOR 2SD1020
Q306	8-729-102-03	TRANSISTOR 2SD1020
Q307	8-729-100-13	TRANSISTOR 2SC2001
Q308	8-729-800-83	TRANSISTOR 2SB808
Q309	8-729-245-83	TRANSISTOR 2SC2458
Q601	8-729-801-83	TRANSISTOR 2SB1013
Q701	8-729-100-66	TRANSISTOR 2SC1623
Q702	8-729-100-66	TRANSISTOR 2SC1623
Q703	8-729-100-66	TRANSISTOR 2SC1623
Q704	8-729-100-66	TRANSISTOR 2SC1623
Q801	8-729-245-83	TRANSISTOR 2SC2458
R101	1-247-879-00	CARBON 100K 5% 1/6W
R102	1-247-865-00	CARBON 27K 5% 1/6W
R103	1-247-855-00	CARBON 10K 5% 1/6W
R104	1-247-811-00	CARBON 150 5% 1/6W
R105	1-247-867-00	CARBON 33K 5% 1/6W
R106	1-247-835-00	CARBON 1.5K 5% 1/6W
R107	1-247-845-00	CARBON 3.9K 5% 1/6W
R108	1-247-863-00	CARBON 22K 5% 1/6W
R109	1-247-895-00	CARBON 470K 5% 1/6W
R110	1-247-903-00	CARBON 1M 5% 1/6W
R111	1-247-849-00	CARBON 5.6K 5% 1/6W
R112	1-247-829-00	CARBON 820 5% 1/6W
R113	1-247-877-00	CARBON 82K 5% 1/6W
R114	1-247-877-00	CARBON 82K 5% 1/6W
R115	1-247-809-00	CARBON 120 5% 1/6W
R116	1-247-849-00	CARBON 5.6K 5% 1/6W
R117	1-247-879-00	CARBON 100K 5% 1/6W
R118	1-247-819-00	CARBON 330 5% 1/6W
R119	1-247-857-00	CARBON 12K 5% 1/6W
R120	1-247-835-00	CARBON 1.5K 5% 1/6W
R121	1-247-881-00	CARBON 120K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R122	1-247-851-00	CARBON 6.8K 5% 1/6W
R123	1-247-853-00	CARBON 8.2K 5% 1/6W
R124	1-247-857-00	CARBON 12K 5% 1/6W
R125	1-247-861-00	CARBON 18K 5% 1/6W
R126	1-247-895-00	CARBON 470K 5% 1/6W
R127	1-247-843-00	CARBON 3.3K 5% 1/6W
R128	1-247-850-00	CARBON 6.2K 5% 1/6W
R129	1-247-848-00	CARBON 5.1K 5% 1/6W
R130	1-247-874-00	CARBON 62K 5% 1/6W
R131	1-247-838-00	CARBON 2K 5% 1/6W
R132	1-247-867-00	CARBON 33K 5% 1/6W
R133	1-247-838-00	CARBON 2K 5% 1/6W
R134	1-247-861-00	CARBON 18K 5% 1/6W
R135	1-247-888-00	CARBON 240K 5% 1/6W
R136	1-247-888-00	CARBON 240K 5% 1/6W
R137	1-247-837-00	CARBON 1.8K 5% 1/6W
R138	1-247-862-00	CARBON 20K 5% 1/6W
R139	1-247-859-00	CARBON 15K 5% 1/6W
R140	1-247-867-00	CARBON 33K 5% 1/6W
R141	1-247-825-00	CARBON 560 5% 1/6W
R142	1-247-838-00	CARBON 2K 5% 1/6W
R143	1-247-835-00	CARBON 1.5K 5% 1/6W
R144	1-247-871-00	CARBON 47K 5% 1/6W
R145	1-247-873-00	CARBON 56K 5% 1/6W
R146	1-247-855-00	CARBON 10K 5% 1/6W
R147	1-247-839-00	CARBON 2.2K 5% 1/6W
R148	1-247-839-00	CARBON 2.2K 5% 1/6W
R149	1-247-865-00	CARBON 27K 5% 1/6W
R150	1-247-863-00	CARBON 22K 5% 1/6W
R151	1-247-821-00	CARBON 390 5% 1/6W
R152	1-247-787-00	CARBON 15 5% 1/6W
R153	1-247-847-00	CARBON 4.7K 5% 1/6W
R155	1-247-867-00	CARBON 33K 5% 1/6W
R156	1-247-873-00	CARBON 56K 5% 1/6W
R157	1-247-879-00	CARBON 100K 5% 1/6W
R158	1-247-845-00	CARBON 3.9K 5% 1/6W
R159	1-247-851-00	CARBON 6.8K 5% 1/6W
R160	1-247-855-00	CARBON 10K 5% 1/6W
R161	1-247-816-00	CARBON 240 5% 1/6W
R162	1-247-811-00	CARBON 150 5% 1/6W
R163	1-247-817-00	CARBON 270 5% 1/6W
R164	1-247-859-00	CARBON 15K 5% 1/6W
R165	1-247-851-00	CARBON 6.8K 5% 1/6W
R166	1-247-867-00	CARBON 33K 5% 1/6W
R167	1-247-879-00	CARBON 100K 5% 1/6W

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R168	1-247-877-00	CARBON	82K	5%	1/6W
R169	1-247-852-00	CARBON	7.5K	5%	1/6W
R301	1-247-857-00	CARBON	12K	5%	1/6W
R302	1-247-855-00	CARBON	10K	5%	1/6W
R303	1-247-857-00	CARBON	12K	5%	1/6W
R305	1-247-865-00	CARBON	27K	5%	1/6W
R306	1-247-863-00	CARBON	22K	5%	1/6W
R307	1-247-879-00	CARBON	100K	5%	1/6W
R308	1-247-847-00	CARBON	4.7K	5%	1/6W
R309	1-247-879-00	CARBON	100K	5%	1/6W
R310	1-247-863-00	CARBON	22K	5%	1/6W
R311	1-247-865-00	CARBON	27K	5%	1/6W
R312	1-247-823-00	CARBON	470	5%	1/6W
R313	1-247-821-00	CARBON	390	5%	1/6W
R314	1-247-847-00	CARBON	4.7K	5%	1/6W
R315	1-247-847-00	CARBON	4.7K	5%	1/6W
R316	1-247-795-00	CARBON	33	5%	1/6W
R317	1-247-871-00	CARBON	47K	5%	1/6W
R318	1-247-867-00	CARBON	33K	5%	1/6W
R319	1-247-867-00	CARBON	33K	5%	1/6W
R320	1-247-881-00	CARBON	120K	5%	1/6W
R321	1-247-831-00	CARBON	1K	5%	1/6W
R322	1-247-855-00	CARBON	10K	5%	1/6W
R601	1-247-840-00	CARBON	2.4K	5%	1/6W
R602	1-247-873-00	CARBON	56K	5%	1/6W
R603	1-214-781-00	METAL	150K	1%	1/4W
R604	1-214-781-00	METAL	150K	1%	1/4W
R605	1-247-855-00	CARBON	10K	5%	1/6W
R607	1-247-879-00	CARBON	100K	5%	1/6W
R608	1-247-855-00	CARBON	10K	5%	1/6W
R609	1-247-887-00	CARBON	220K	5%	1/6W
R610	1-247-876-00	CARBON	75K	5%	1/6W
R701	1-216-206-00	METAL CHIP	2.2K	5%	1/8W
R702	1-216-258-00	METAL CHIP	330K	5%	1/8W
R703	1-216-246-00	METAL CHIP	100K	5%	1/8W
R704	1-216-252-00	METAL CHIP	180K	5%	1/8W
R705	1-216-252-00	METAL CHIP	180K	5%	1/8W
R706	1-216-238-00	METAL CHIP	47K	5%	1/8W
R707	1-216-222-00	METAL CHIP	10K	5%	1/8W
R708	1-216-230-00	METAL CHIP	22K	5%	1/8W
R709	1-216-222-00	METAL CHIP	10K	5%	1/8W
R710	1-216-250-00	METAL CHIP	150K	5%	1/8W
R711	1-216-206-00	METAL CHIP	2.2K	5%	1/8W
R712	1-216-246-00	METAL CHIP	100K	5%	1/8W
R713	1-216-270-00	METAL CHIP	1M	5%	1/8W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R714	1-216-230-00	METAL CHIP	22K	5%	1/8W
R715	1-216-278-00	METAL CHIP	2.2M	5%	1/8W
R716	1-216-180-00	METAL CHIP	180	5%	1/8W
R801	1-247-855-00	CARBON	10K	5%	1/6W
R802	1-247-855-00	CARBON	10K	5%	1/6W
R804	1-247-879-00	CARBON	100K	5%	1/6W
R805	1-247-855-00	CARBON	10K	5%	1/6W
R806	1-247-879-00	CARBON	100K	5%	1/6W
R807	1-247-855-00	CARBON	10K	5%	1/6W
R808	1-247-857-00	CARBON	12K	5%	1/6W
R809	1-247-873-00	CARBON	56K	5%	1/6W
R810	1-247-875-00	CARBON	68K	5%	1/6W
R811	1-247-847-00	CARBON	4.7K	5%	1/6W
R812	1-247-853-00	CARBON	8.2K	5%	1/6W
R813	1-247-783-00	CARBON	10	5%	1/6W
R814	1-247-813-00	CARBON	180	5%	1/6W
R815	1-247-813-00	CARBON	180	5%	1/6W
R816	1-247-813-00	CARBON	180	5%	1/6W
R817	1-247-813-00	CARBON	180	5%	1/6W
R818	1-247-813-00	CARBON	180	5%	1/6W
R819	1-247-831-00	CARBON	1K	5%	1/6W
RV101	1-226-710-00	RES, ADJ, SOLID 10K			
RV102	1-230-035-00	RES, ADJ, CARBON 10K			
RV201	1-226-710-00	RES, ADJ, SOLID 10K			
RV202	1-230-035-00	RES, ADJ, CARBON 10K			
RV301	1-230-275-11	RES, VAR, CARBON 50K/50K			
RV302	1-228-545-00	RES, VAR, SLIDE 50K/50K			
RV601	1-230-351-11	RES, ADJ, METAL GLAZE 50K			
RV602	1-228-607-00	RES, VAR, CARBON 20K			
RV603	1-230-351-11	RES, ADJ, METAL GLAZE 50K			
S301	1-554-029-00	SWITCH, SLIDE (REC/PB SELECT)			
S302	1-554-222-00	SWITCH, SLIDE (MIC ATT)			
S601	1-554-142-00	SWITCH, SLIDE (SPEED TUNE)			
S801	1-554-746-11	SWITCH, SLIDE (PEAK/BATT SELECT)			
S802	1-552-642-00	SWITCH (DOLBY NR)			
S803	1-552-642-00	SWITCH (TAPE SELECT)			
S901	1-553-226-00	SWITCH, LEAF (POWER)			
S902	1-552-181-00	SWITCH, LEAF (FWD MUTE)			
S903	1-553-198-00	SWITCH, LEAF (REC MUTE)			
T301	1-433-244-00	TRANSFORMER, BIAS OSCILLATOR			
X701	1-527-957-00	OSCILLATOR, CRYSTAL			

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WM-D6C/TC-D6C

SERVICE MANUAL

WM-D6C:
US Model
Canadian Model
AEP Model
UK Model
E Model
TC-D6C:
US Model

SUPPLEMENT

File this Supplement with the Service Manual.

Subject: DOLBY IC (IC101, 201) CHANGE

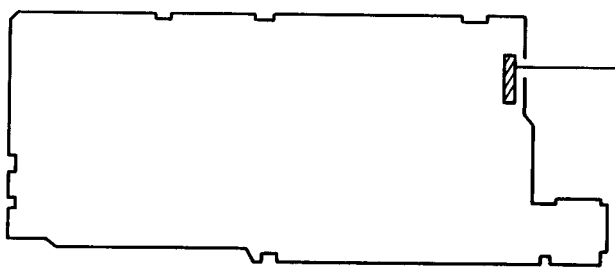
No. 1
January, 1985

	(Former)	(New)
IC101, 102	CX20068	➡ CX20218

Because of this change, main board and the circuit around DOLBY IC have been changed.

- New or former type can be identified by the part-number suffix of main board.

MAIN BOARD



Former type: 1-611-494-**11**
New type: 1-611-494-**12**

The mounting diagram and the schematic diagram for the main board whose part-number suffix is 12 are given in this suppliment.

As to information for the main board whose part-number suffix is 11, refer to the service manual previously issued.

- CHANGED PARTS . . . . . Page 2–3
- Semiconductor lead layouts . . . . . Page 3
- MOUNTING DIAGRAM . . . . . Page 4–6
- SCHEMATIC DIAGRAM . . . . . Page 7–10

STEREO CASSETTE-CORDER

SONY®

TC

- **CHANGED PARTS**

Note: Components for right channel is omitted. (Reference numbers are corded from 201.)

Ref. No.	Former (PC Board Suffix-11)	New (PC Board Suffix-12)
	Description	Part No.	Description
C103	TANTALUM 33μF 20% 6.3V	1-124-220-00	ELECT 33μF 20% 4V
C117	CERAMIC 100PF 10% 50V	1-102-108-00	CERAMIC 150PF 10% 50V
C121	CERAMIC 0.022μF 10% 25V	1-161-054-00	CERAMIC 0.018μF 10% 25V
C122	ELECT 2.2μF 20% 50V	1-124-255-00	ELECT 1μF 20% 50V
C123	TANTALUM 0.15μF 10% 35V	1-131-343-00	TANTALUM 0.22μF 10% 35V
C127	TANTALUM 0.15μF 10% 35V	1-131-341-00	TANTALUM 0.1μF 10% 35V
C128	TANTALUM 0.15μF 10% 35V	1-131-343-00	TANTALUM 0.22μF 10% 35V
C129	CERAMIC 0.0047μF 10% 25V	1-161-012-00	CERAMIC 0.0082μF 10% 25V
C134	CERAMIC 560PF 10% 50V	1-102-119-00	CERAMIC 0.0015μF 10% 50V
D101	DIODE 1S1555	———	
D201	DIODE 1S1555	———	
D301	DIODE HZ3ALL	———	
IC101	IC CX20068	8-752-021-80	IC CX20218
IC201	IC CX20068	8-752-021-80	IC CX20218
R134	CARBON 18KΩ 5% 1/6W	1-247-869-00	CARBON 39KΩ 5% 1/6W
R135	CARBON 240KΩ 5% 1/6W	1-247-872-00	CARBON 51KΩ 5% 1/6W
R136	CARBON 240KΩ 5% 1/6W	1-247-891-00	CARBON 330KΩ 5% 1/6W
R137	CARBON 1.8KΩ 5% 1/6W	1-247-831-00	CARBON 1KΩ 5% 1/6W
R138	CARBON 20KΩ 5% 1/6W	1-247-858-00	CARBON 13KΩ 5% 1/6W
R139	CARBON 15KΩ 5% 1/6W	1-247-858-00	CARBON 13KΩ 5% 1/6W
R141	CARBON 560Ω 5% 1/6W	1-247-827-00	CARBON 680Ω 5% 1/6W
R149	CARBON 27KΩ 5% 1/6W	1-247-859-00	CARBON 15KΩ 5% 1/6W
R150	CARBON 22KΩ 5% 1/6W	1-247-871-00	CARBON 47KΩ 5% 1/6W

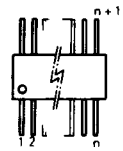
Ref. No.	Former (PC Board Suffix-11)	New (PC Board Suffix-12)
	Description	Part No.	Description
R154	———	1-247-890-00	CARBON 300KΩ 5% 1/6W
R161	CARBON 240Ω 5% 1/6W	1-247-818-00	CARBON 300Ω 5% 1/6W
R170	———	1-247-903-00	CARBON 1MΩ 5% 1/6W
R171	———	1-216-198-00	METAL CHIP 1KΩ 5% 1/8W
R172	———	1-216-081-00	METAL CHIP 22KΩ 5% 1/10W
R312	CARBON 470Ω 5% 1/6W	1-247-826-00	CARBON 620Ω 5% 1/6W
R313	CARBON 390Ω 5% 1/6W	1-247-824-00	CARBON 510Ω 5% 1/6W

Service Manual P31, 32

(345) LEVER, SPRING HOOK 3-557-405-00 ➡ 3-305-988-01

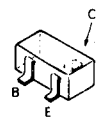
- **Semiconductor lead layouts**

CX10043
CX20218
CX20084
NJM386M
NJM4558M

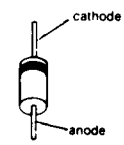


2SA1048-GR
2SB808
2SC2458
2SC2458L-BL

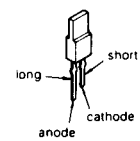
2SC1623



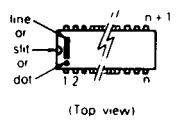
1S1555



GL9PR10

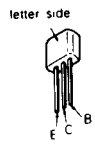


MSM58141RS

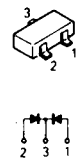


2SB1013
2SC2001

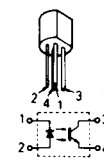
2SD1020



1S2837

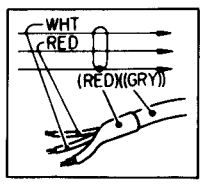


NJL5141E



Note: FOR MOUNTING DIAGRAM

- Color code of sleeving over the end of the jacket.



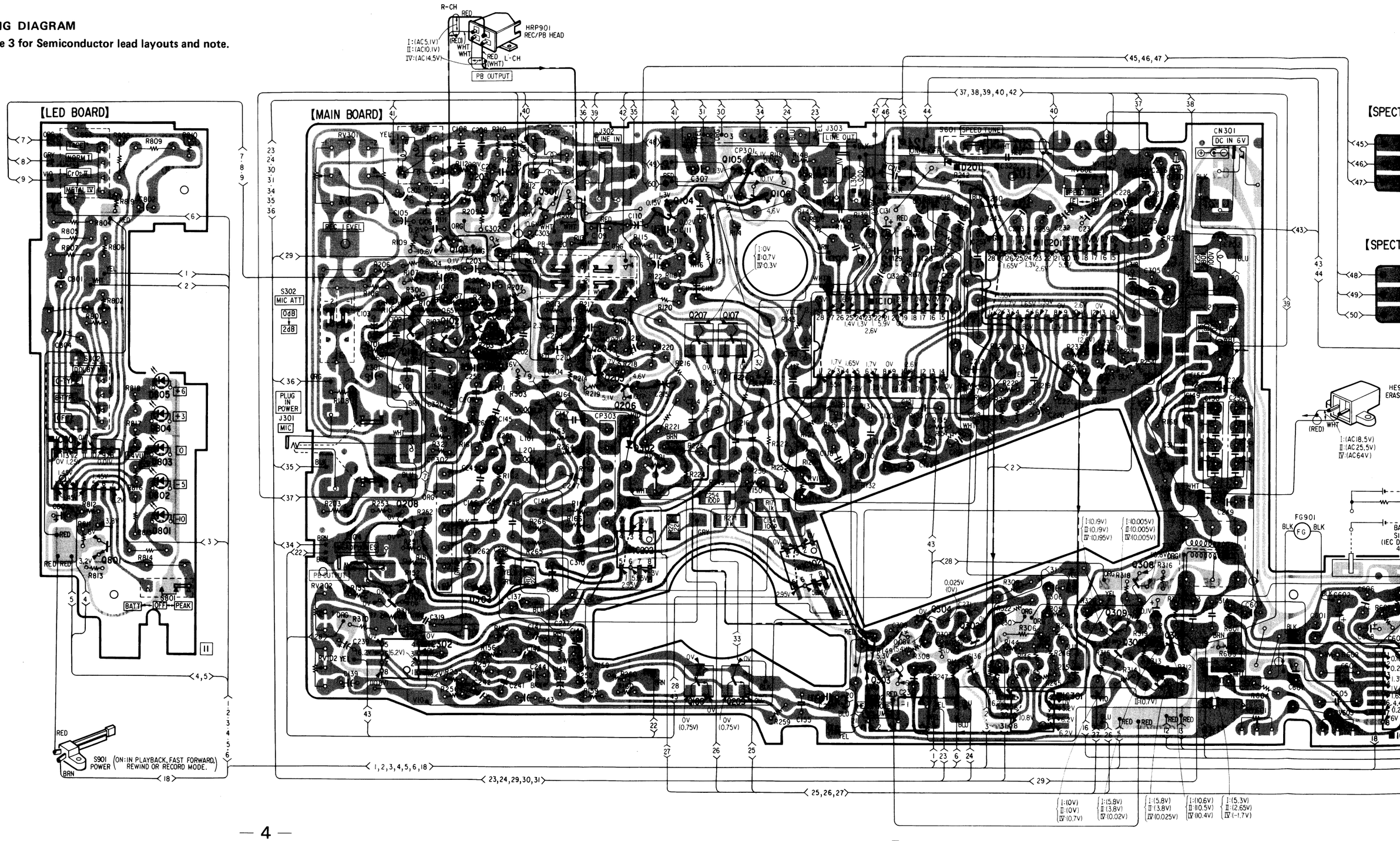
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- : B + pattern
- ▬▶▬ : signal path
- ▬▪▬▶ : L-CH signal path
- ▬▪▪▬▶ : R-CH signal path

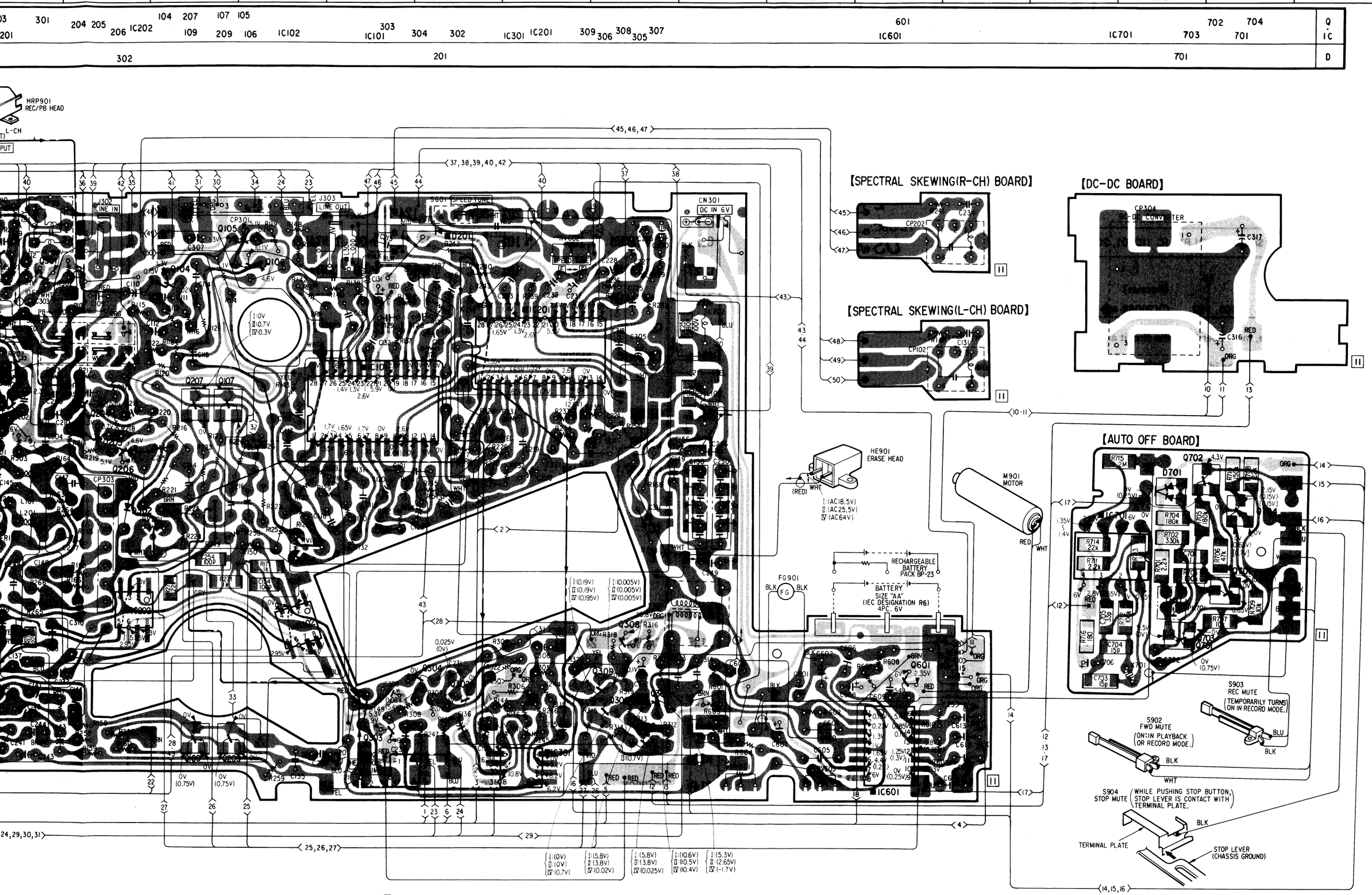
WM-D6C/TC-D6C WM-D6C

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	Q / IC	IC801	801			108 208 101 IC302	103 102 202	203 201	301	204 205 206 IC202	104 207 109	107 105 209 106 IC102	IC101 303	304	302	IC301 IC201	309 306 308 305 307
B	D		805 804 803 802 801				303			302			201			

MOUNTING DIAGRAM

- See page 3 for Semiconductor lead layouts and note.




7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
A B C D E F G H I J
HRP901 REC/PB HEAD
L-CH
J302 LINE IN
J303 LINE OUT
CN301 DC IN 6V
SPEED TUNE
IC601
IC701
IC101
IC102
IC201
IC301
IC202
Q105
Q106
Q104
Q207
Q107
Q206
Q308
Q309
Q304
Q601
Q702
Q701
D701
HE901 ERASE HEAD
M901 MOTOR
FG901
RECHARGEABLE BATTERY PACK BP-23
BATTERY SIZE "AA" (IEC DESIGNATION R6) 4PC. 6V
【SPECTRAL SKEWING(R-CH) BOARD】
【SPECTRAL SKEWING(L-CH) BOARD】
【DC-DC BOARD】
DC-DC CONVERTER
【AUTO OFF BOARD】
S901 REC MUTE (TEMPORARILY TURNS ON IN RECORD MODE.)
S902 FWD MUTE (ON:IN PLAYBACK OR RECORD MODE.)
S904 STOP MUTE (WHILE PUSHING STOP BUTTON, STOP LEVER IS CONTACT WITH TERMINAL PLATE.)
TERMINAL PLATE
STOP LEVER (CHASSIS GROUND)
45,46,47
37,38,39,40,42
43
43 44
10·11
2
28
29
4
14,15,16
12 13 17
25,26,27
24,29,30,31

SCHEMATIC DIAGRAM

【MAIN BOARD】

Q102,103 2SC2458L
MIC AMP

Q301 2SC2458
RIPPLE FILTER

IC101 CX20218
DOLBY B-C NR

IC301 NJM4558M
LINE AMP

【SPECTRAL SKEWING BOARD (L-CH)】

Q101 2SA1048L
MIC AMP

Q107 2SC1623
PB EQ SWITCH

Q104-106 2SC2458L
PB EQ AMP

IC302 NJM4558M
REC EQ AMP

Q109 2SC1623
REC EQ MUTING

D303 1SI555

【LED BOARD(1/3)】

【AUTO OFF BOARD】

R-CH IS THE SAME AS L-CH. (REF No. 200-)

R-CH IS THE SAME AS L-CH. (REF No. 200-)

T301
BIAS OSC

Q308 2SB810
SWITCHING

Q309 2SC2458
BIAS TIMING

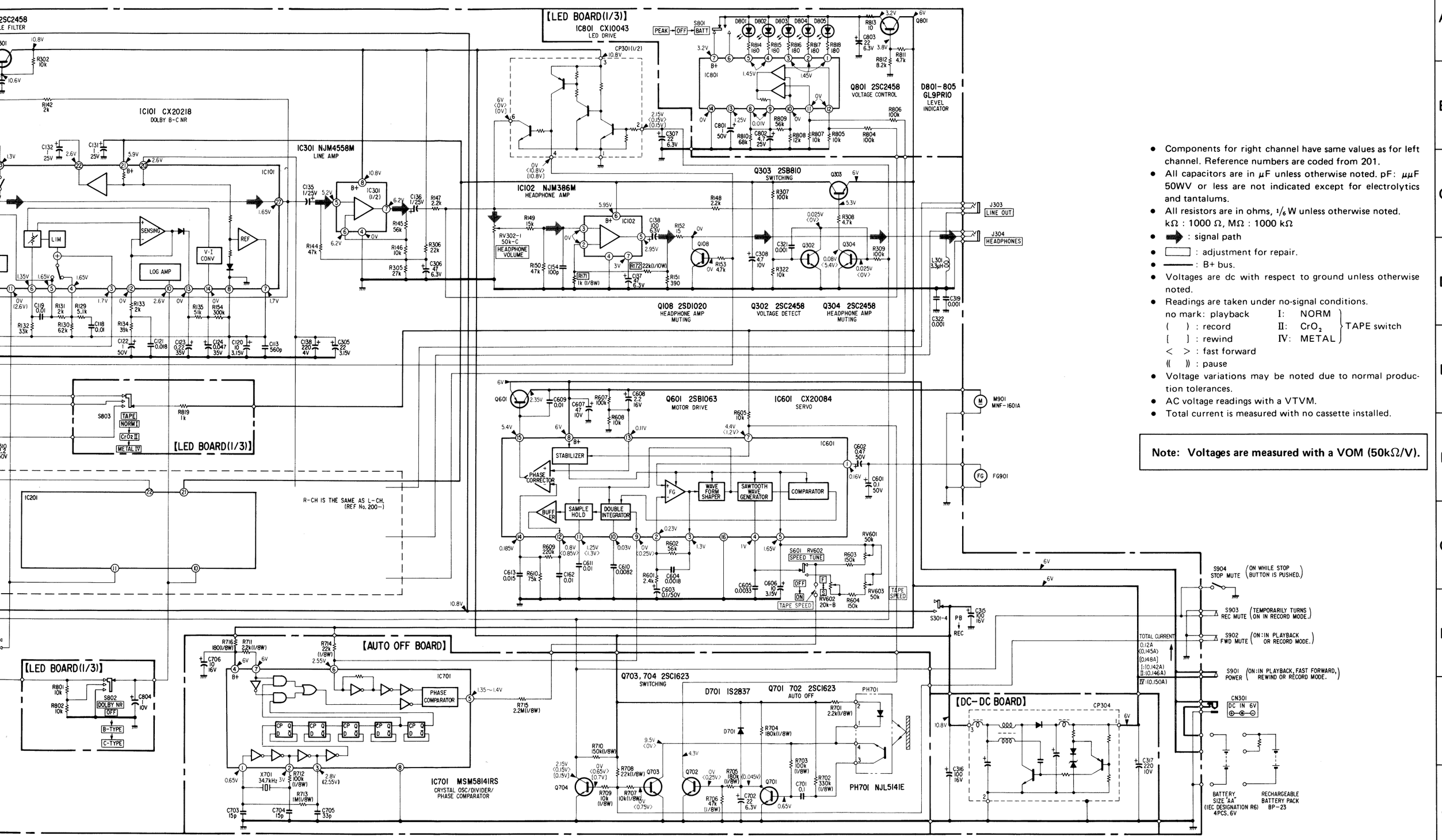
Q307 2SC2001
BIAS OSC

Q305,306 2SD1020
BIAS SWITCHING

D302 1SI555

【LED BOARD(1/3)】

IC701 MSM5814IRS
CRYSTAL OSC/DIVIDER/
PHASE COMPARATOR



- Components for right channel have same values as for left channel. Reference numbers are coded from 201.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6 W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ➡ : signal path
- ▭ : adjustment for repair.
- ——— : B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions.
  - no mark: playback
  - ( ) : record
  - [ ] : rewind
  - < > : fast forward
  - (( )) : pause
  - I: NORM
  - II: CrO_2
  - IV: METAL
  - } TAPE switch
- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings with a VTVM.
- Total current is measured with no cassette installed.

Note: Voltages are measured with a VOM (50kΩ/V).